

EXCLUSIVELY DOOR MANUFACTURERS



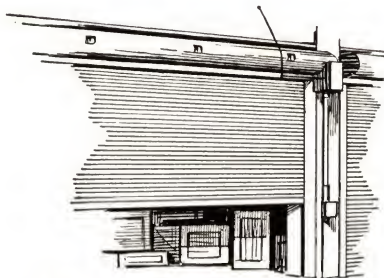
KINNEAR

ROLLING DOORS

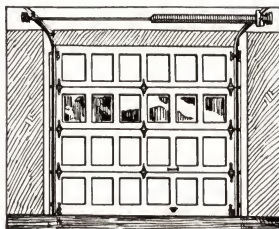
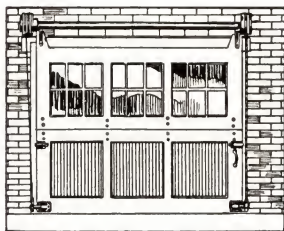
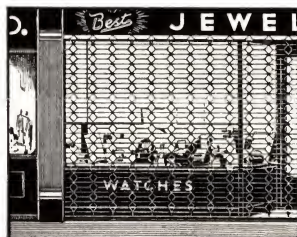
KINNEAR DOORS AND DOOR PRODUCTS

A GRAPHIC SUMMARY
OF KINNEAR DOORS

Steel Rolling Service Doors



Fire Doors & Fire Shutters

Wood & Steel Rol-Top
Garage DoorsWood & Steel Bifolding
Doors

Metal Rolling Grilles

Foreword

THE KINNEAR MANUFACTURING COMPANY, since its founding 42 years ago, has devoted its exclusive efforts to the manufacture of doors and door operating equipment. By pioneering the practicability of the upward-opening type of door, both in the field and in the factory, Kinnear has developed a door of ingenious design, constructed of high quality materials by competent and skilled mechanics. Through this leadership in the field, they have naturally originated the most important improvements in door design. And today, Kinnear Doors are recognized the world over for their efficiency and economy, for both service and fire protection purposes.

While designed primarily for doorways and window openings in all classes of buildings, they are also now being successfully adapted for a wide range of special uses. So, wherever a closing device is required, the possible application of Kinnear economies should be investigated.

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NOTE: Kinnear also manufactures Wood and Steel Vertical Sliding Doors and Tip-Top Hardware for converting garage doors into upward-action; as well as upward-acting doors for many special applications. Bulletins on these products will be sent upon request.

THE KINNEAR MANUFACTURING CO.

820-870 Field Avenue Columbus, Ohio

Branch Offices

BOSTON, MASS., 6 Jersey St.
NEW YORK, 30 Rockefeller Plaza, R.C.A. Bldg.
PHILADELPHIA, PA., 1321 Arch St.
WASHINGTON, D. C., 410 Bond Bldg.
NEW ORLEANS, LA., 529 Hibernia Bank Bldg.
PITTSBURGH, PA., 1200 Century Bldg.

CLEVELAND, OHIO, 7704 Carnegie Ave.
CINCINNATI, OHIO, 1357 Delta Ave., Hyde Park.
DETROIT, MICH., 7710 Woodward Ave.
CHICAGO, ILL., 1919 Randolph Wells Bldg.
SAN FRANCISCO, CALIF., 361 Brannan St.
BALTIMORE, MD., 210 Fidelity Bldg.

AGENTS IN PRINCIPAL CITIES

A Complete Door Service

ITS IMPORTANCE TO ARCHITECTS, CONTRACTORS AND OWNERS

To specify Kinnear Doors means more than the selection of a superior product . . . it is your assurance of a complete door service. The Kinnear Organization assumes complete responsibility. A staff of experienced Door Engineers designs the door to most efficiently meet the conditions of the particular requirements. After the design has been approved the door is especially built by experienced door mechanics in the largest and best equipped plant in the industry. Kinnear trained erection crews are available then to see that it is properly installed and put in perfect operation. After that, Kinnear still remains on the

job, from standpoint of service. Records and patterns of every Kinnear Door sold are kept in fireproof vaults. In case of accidental damage, duplicate parts can be promptly supplied . . . and because of Kinnear's design, replacements can be easily and economically made.

Experience has shown that an orphan door is like an orphan car; it quickly loses its value. But through a nation-wide service organization, Kinnear is as close as your telephone, and will always be found to be equally interested in servicing present installations as to sell new doors.

TO ARCHITECT

Besides operating efficiency and economy, Kinnear Doors offer the compactness, safety and simplicity and high quality that is vital to the Architect in designing and specifying equipment. In addition, the long service records of Kinnear Doors provide a reputation sufficiently reliable to permit him to readily specify "Kinnear" without exhaustive study. Architects also highly regard the co-operation and assistance Kinnear Engineers offer, in the solution of door problems.

TO CONTRACTOR

Quick and accurate estimates, accurate designs and working drawings, entire co-operation of a trained construction crew at the time of installation in complying with the building procedure plan, are a few of the reasons Kinnear Doors have won such favor with Contractors. By being relieved of the responsibility of speedy and proper installation they have learned that by accepting the Kinnear bid they are money ahead . . . and protect their reputation for delivering quality.

TO OWNER

In addition to the numerous operating economies, the first cost of Kinnear Doors is generally the final cost. Inherently durable, they give years of uninterrupted, efficient service. This is evidenced by hundreds of doors that are still in daily service after more than 30 years of hard usage. For a sound investment, the performance of Kinnear Doors, coupled with Kinnear's permanently available replacement service for cases of accidental damage, cannot be overlooked.



Scope of Kinnear Service

1. Branch offices and sales representatives, trained and experienced in door engineering, strategically located throughout United States and many foreign countries.
2. Study of your opening problem to determine your exact requirements.
3. Staff of experienced door engineers prepare drawings of doors to meet your individual needs.
4. Doors are carefully fabricated in a completely equipped plant by experienced mechanics and of the finest quality materials.
5. Erection Service by trained workmen.
6. Maintenance of records and patterns of every Kinnear Door installed makes replacement parts always available in case of accidental damage.
7. Nation-wide service organization.
8. Every door is backed by the integrity of a company which has faithfully served the public for the best part of a half century.

DESIGNED and BUILT to MEET

K

INDIVIDUAL REQUIREMENTS

Time Tested Advantages

OF KINNEAR ROLLING DOORS

As Reported by Users Throughout the World

With thousands of doors giving dependable service in all classes of buildings—Industrial and Mercantile Buildings, Public and Private Edifices of Classic Design, Piers, Ware and Freight Houses and numerous special types of structures—users in every part of the world have had an opportunity to witness the efficiency

and economy of Kinnear Rolling Doors. Besides the convenience, low cost of maintenance and reliability of manufacture, advantages briefly listed below are the most important of those for which Kinnear Rolling Doors are universally endorsed. Thoroughly consider each of these advantages in terms of resulting economy.

1. EASY, QUICK OPERATION

Operating upward, clearing all ground obstructions and accurately and permanently counterbalanced, Kinnear Doors operate with speed, ease and smoothness . . . effecting substantial savings in time and effort.

2. SAVING SPACE

When open, Kinnear Doors are stowed overhead, where space is cheap—not requiring expensive floor or wall space. Merchandise or materials can be stored within a few inches of either side of the door, without hampering its operation.

3. GREATER DURABILITY

By virtue of their upward-action, Kinnear Doors are out of the way, less subject to damage from moving objects, wind and elements. Designed by experienced door engineers, no point has been overlooked in fabricating a door that will best withstand the effects of the elements and hard, rough usage. This, coupled with Kinnear's nation-wide servicing organization, means negligible maintenance costs.

4. FIRE PROTECTION

Kinnear Metal Rolling Doors are fire resisting, providing an effective guard in case of fire. When fire protection is of primary importance, the use of Kinnear Automatic, Labeled Rolling Doors reduces insurance premiums substantially. Through endorsement by the Underwriters as a fire door and bearing their label, they can also be used for service purposes.

5. MAXIMUM SAFETY

Kinnear Doors are built with strength and quality in excess of mechanical requirements. Springs are individually tested. Automatic Doors are provided with a governor safety device and other special safety features.

6. WEATHER GUARD

The curtain or panels are of weather-resisting materials and given a high grade protective coating. If special weathertight features are required, this is accomplished by the use of weather-seal guides, special endlocks, etc.

7. ECONOMICAL INSTALLATION

Kinnear Doors are designed to be installed with the minimum preparation of the opening, and to facilitate rapid and economical erection.

8. NEAT APPEARANCE

Open or closed, Kinnear Doors give the openings a clean-cut appearance to harmonize with the architectural treatment of the building. All mechanism is neatly arranged, with concealed parts wherever possible.

9. THEFT PROOF

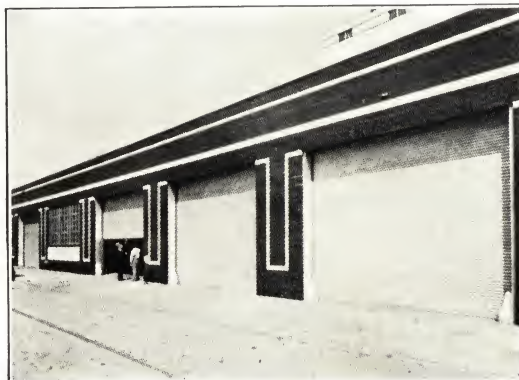
Strongly built and with provisions for locking, Kinnear Doors are dependable guards against thieves, marauders and rioters.

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At Extreme Left:

Protection afforded the Bessemer Building, Springfield, Illinois, by the use of Kinnear Steel Rolling Fire Shutters on all windows on the fire exposure side, is self-evident. All the shutters automatically closed when the fire started.



At Left:

Illustrating how Kinnear Doors harmonize with any modern architectural design. Through the use of various metals, very attractive effects can be obtained. This battery of doors is found in daily operation on the Hecht and Company's modern Washington, D. C., warehouse.

Steel Rolling Service Doors

GENERAL CONSTRUCTION

Kinnear Steel Rolling Doors and Shutters are sold under two distinct classifications, viz: Service Doors that are designed for openings which do not require an Underwriters' label, and where insurance is not a consideration; and Automatic Doors which are built for places where the protection of human life and property against fire is of prime importance. However, the Service Doors described here, by the very nature of their construction, are fire-repellent and afford a certain amount of fire protection. Details of the Fire Door will be found on pages 10 to 14 inclusive.

The curtain proper is made of open hearth, copper-bearing steel interlocking slats heavily galvanized by the Kinnear Tite-Cote hot process (also of pure iron, stainless steel, aluminum, bronze and other metals) and equipped with endlocks of suitable material. This curtain is coiled upon a barrel journaled in heavy cast iron brackets and travels in steel guides mounted on the side of the opening. Helical springs enclosed in the barrel provide perfect counterbalancing. A hood of suitable design and metal is furnished for covering the barrel and coil.

METHODS OF OPERATION

The methods of operation most commonly used in Kinnear Steel Rolling Doors are:

Push up

Manually opened and closed by means of handles in bottom plate. (Not recommended for doors exceeding 80 sq. ft. in area.)

Chain

Mechanically operated by hand chain, sprocket and reduction gearing.

Crank

Mechanically operated by hand crank, shafting and reduction gearing.

Power

Driven by electric motor, controlled by one or more conveniently located control stations.

Easy and rapid operation of every Kinnear Service Door is obtained by careful calculation of size of spring employed in counterbalancing, the liberal use of annular roller and thrust bearings, machine molded gears and other refinements of this character. Springs are carefully tested before being applied to doors.

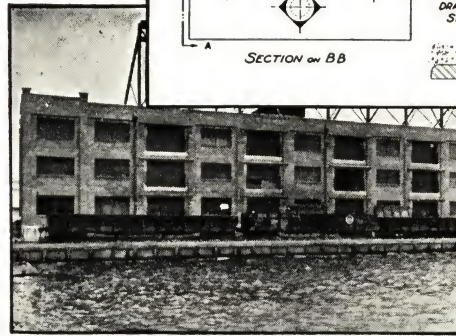
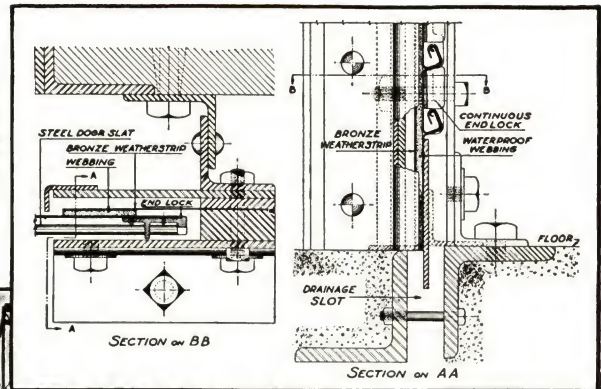
The selection of the type of operation is usually determined by the size of door and service required.

INSTALLATION OF KINNEAR STEEL ROLLING DOORS

The illustration below shows the most common methods of installing Kinnear Steel Rolling Doors. When the coil is mounted on the face of the wall, as in the case of old buildings and where headroom is ample, the brackets and coil are entirely above the bottom of the lintel and the edges of the guides are flush with the face of the opening jambs. Where headroom is limited, the door is then mounted in the opening, in which case the brackets and coil are located on the jambs or in reveals provided in the jambs.

If Kinnear Engineers have the opportunity to work with the Architect and Engineer during the designing period of the job, it is frequently possible to conceal all working parts of the door, making the curtain when in the closed position, the only visible part. The door may be encased by wood, marble, bronze and other materials when appropriate.

At Right:
Illustrates how Kinnear can arrange the bottom construction of a Steel Rolling Door for making it watertight.



At Left:

A large battery of Kinnear Steel Rolling Doors that provide complete weather protection by the addition of the above provision.

To fully understand the designing skill and the high quality materials and workmanship put in this door, see pages 6 and 7. Though built to this high standard, every Kinnear Door is especially tailored to meet the individual requirement—no doors being carried in stock.

In case the type of door suited to your exact needs is not illustrated in this catalog, write Kinnear Engineers for special recommendations. Those illustrated are only the types in most general use.

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1. Face of Wall—
Manual Operation

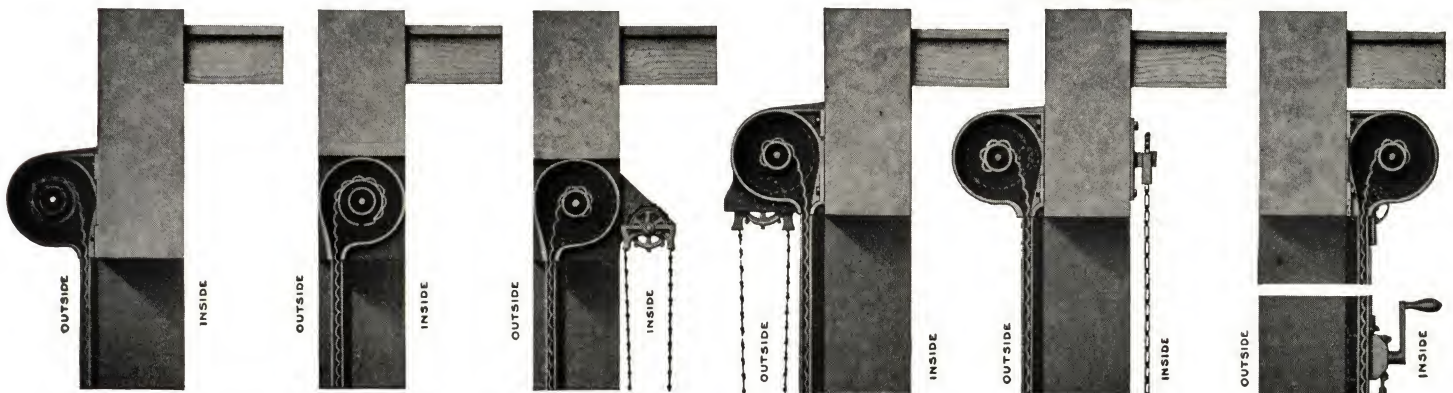
2. Between Jamb—
Manual Operation

3. Between Jamb—
Chain Operation

4. Face of Wall—
Chain Operation

5. Face of Wall—
Chain Operation
from opposite side

6. Face of Wall—
Crank Operation



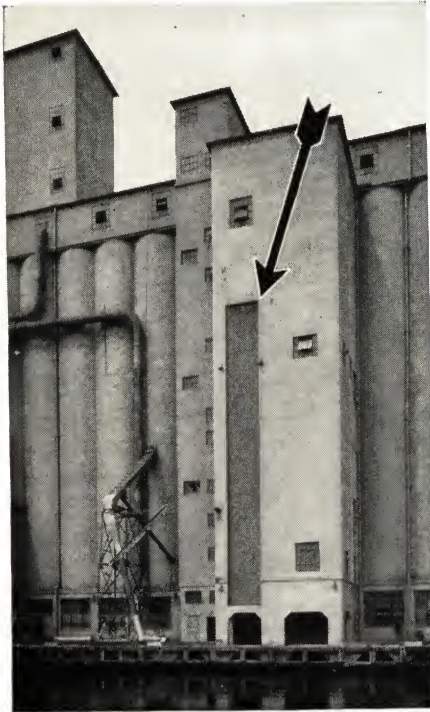
COUNT THE REASONS--FOR THE LOW MAINTENANCE COST & LONG SERVICE OF

Kinnear Steel Rolling Service Doors

A Kinnear Steel Rolling Door is a highly developed piece of mechanical equipment.

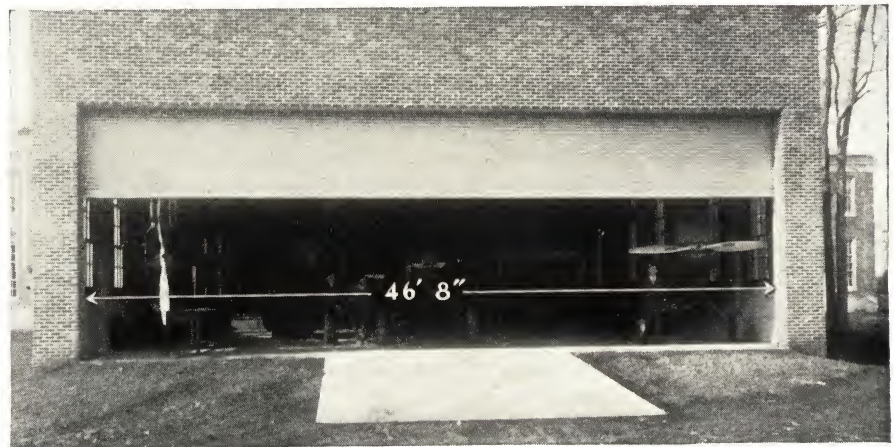
The engineering skill and quality materials used in its fabrication are responsible for exclusive construction features which gives it the lasting efficiency and low cost of maintenance so necessary to a sound investment.

Since so much of the dollar value of a Kinnear Door is hidden under the hood, the discriminating purchaser will find the construction points listed below, which are of interest. The numbers correspond to those on the drawing on the opposite page, permitting a visual appraisal of the superior merits that make a Kinnear Door ultimately the lowest cost door to buy.



Opening the entire side of a building is accomplished with the Kinnear Steel Rolling Door which is installed in the aeronautical laboratory at the University of Alabama (illustrated below).

An engineering feat that speaks well of Kinnear's ability for handling any opening requirement.



KINNEAR F.H. 20—

1. BRACKETS

Uniformly cast in special moulds, eliminating variations found in sheet steel types. All surfaces are smooth and even. Metal of gray iron of uniform texture with high-test value and suitably proportioned with large factor of safety. Bracket mouth and stops are at an established distance between center and back of bracket, thus providing a throat which permits smooth operation without friction and eliminates the excessive drag of curtain over the stops.

Bearings of large proportions are provided for barrel spindles.

2. HOODS

Neatly formed hot galvanized sheet steel hoods to fit contour of brackets, suitably reinforced with beads or flanges to prevent deflection.

3. CURTAIN

Composed of interlocking slats of hot galvanized copper-bearing steel. For slat details see No. 15.

4. SPRING BARREL

Each door is provided with a heavy steel barrel of sufficient diameter and thickness to avoid deflection in excess of .03 inches per lineal foot of barrel.

This barrel serves a three-fold purpose, viz:

1. Encases the counterbalancing mechanism.

2. Serves as the load carrying beam.

3. Provides an axis around which curtain coils.

5. COUNTERBALANCE

Oil-tempered helical springs wound from especially heat-treated steel and tempered with oil, providing a permanent means of counterbalance. Each one of these springs is tailored and tested for each job.

6. RINGS

Rings of malleable iron of special involute shape, designed to coil the curtain with a uniformly, increasing diameter. Size adaptable to provide an initial diameter sufficient to insure uniform and constant counterbalance for all points of the door travel.

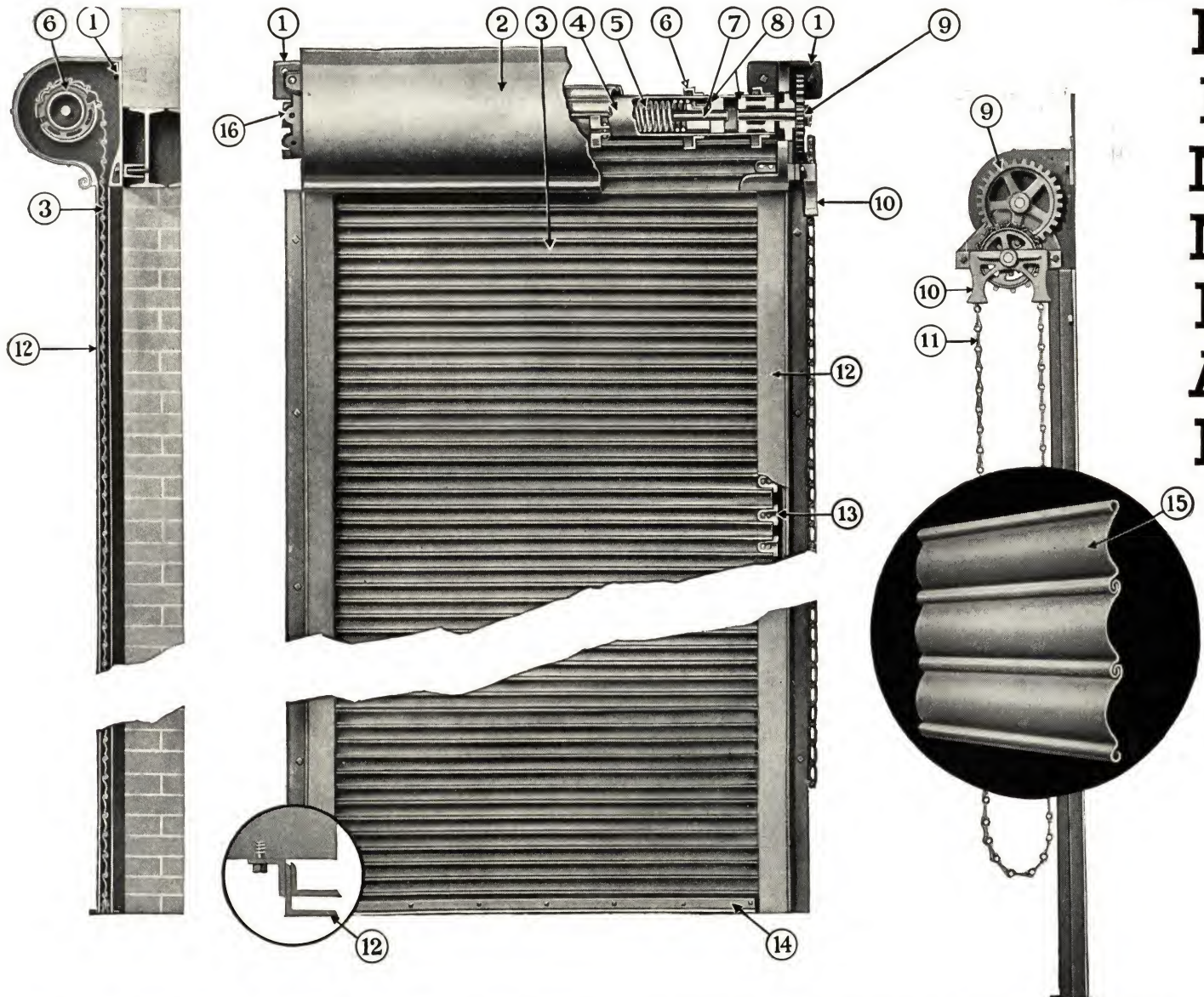
7. SHAFTING OR TENSION ROD

Of sufficient size to carry the torsional load of the spring counterbalance and to be of cold rolled polished steel in order to eliminate friction in all bearings.

8. BARREL PLUGS

Heavy cast iron plugs machined to fit perfectly into the ends of barrel and having Kinnear special design for holding the ends of the spring and eliminating the usual excessive strain at the spring ends.

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—CHAIN HOIST TYPE DOOR—FACE DOOR MOUNTING

9. REDUCTION GEARING

Suitable reduction gearing cast with teeth machine molded from machine finished patterns. Designed with a high factor of safety and reduction ratio individually suited for the door operated.

10. CHAIN GUARD

Sprocket wheel provided with a guard, especially designed to properly guide and prevent hand chain from leaving wheel.

11. OPERATING CHAIN

Heavily galvanized, and of design and strength to prevent stretching and to provide a comfortable hand grip.

12. GUIDES

Fabricated from structural steel angles. The Kinnear Guide is designed with groove depths varying from 2 to 8 inches, depending upon the width of the door. This guide is especially adaptable for doors exposed to heavy wind pressure and is packed out from the face of the wall in order to accommodate the especially designed throat of the bracket.

13. END LOCKS

Made of malleable iron and placed on alternate slats. For retaining slats in place, protecting them against rubbing in the guides and to maintain the curtain in alignment.

14. BOTTOM BAR

Reinforces the curtain against wind pressure and is made with two angles of equal weight in order that they balance and hang freely on the curtain to eliminate binding friction in the guides. Provides contact for the curtain against the sill when the door is closed and against the stops on the bracket when the door is open, retaining the bottom of the curtain in a correct position suitable to the initial movement in operation.

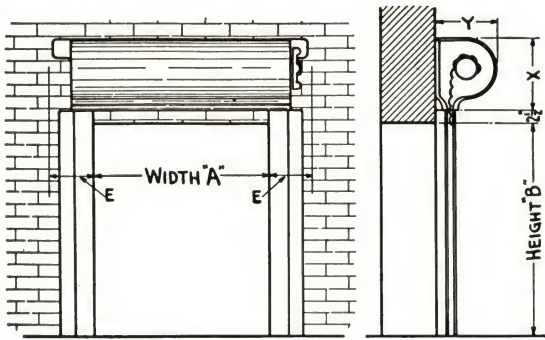
15. SLATS

Made of different sizes to accommodate the width of the door. Slats are designed to have a high crown to provide rigidity. The hinging centers are so arranged to give free action in the curtain and to properly nest when coiled on the barrel. Standard slats are rolled from copper-bearing steel and hot galvanized. The gauge of metal used in the slats depends upon the width of the opening. In every instance the size and gauge of slat is selected to best meet customers' requirements. Slats can be furnished, when desired, in stainless steel, aluminum, bronze or copper.

16. ADJUSTMENT WHEEL

Mounted on the outside of the bracket. Easily accessible. Kinnear counterbalance is so designed that the initial tension can be increased or decreased by use of this wheel, which is mounted on the tension rod. It is of heavy cast iron construction, and locked to the bracket after adjustments are made.

F.M. 10 HAND LIFT TYPE—FACE MOUNTING



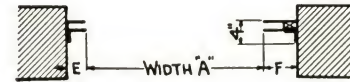
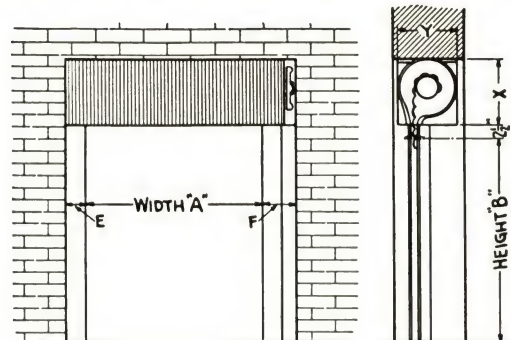
*NOT RECOMMENDED FOR SIZES EXCEEDING 80 SQUARE FEET IN AREA.

F.M. 10. CLEARANCE DIMENSIONS, INCHES

Height B, Ft.		6			7			8			9			10			11			12		
		X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E
Width A, Feet	3	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	4	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	5	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	6	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	7	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	8	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	9	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	10	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	11	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6
	12	13	12	6	14	13	6	14	13	6	17	16	6	17	16	6	17	16	6	18	17	6

Note: For doors of intermediate sizes, use clearance dimensions listed for next larger width or height.

B.M. 10 HAND LIFT TYPE—UNDER LINTEL MOUNTING

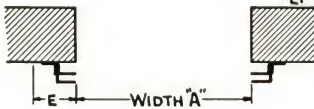
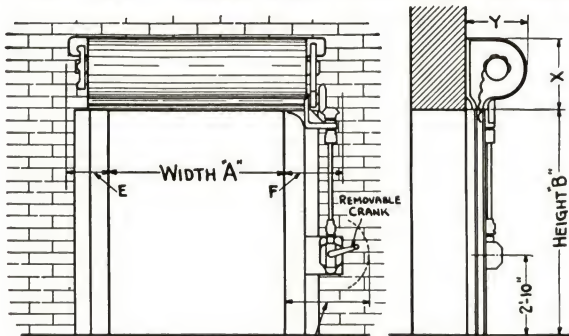


*NOT RECOMMENDED FOR SIZES EXCEEDING 80 SQUARE FEET IN AREA.

B.M. 10. CLEARANCE DIMENSIONS, INCHES

Height B, Feet		6			7			8			9			10			11			12		
		X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E
Width A, Feet	3	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	4	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	5	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	6	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	7	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	8	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	9	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	10	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	11	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3
	12	14	11	3	15	13	3	15	13	3	17	15	3	18	16	3	18	16	3	18	16	3

F.C. 20 CRANK SHAFT TYPE—FACE MOUNTING



*F" FOR RATCHET CRANK
*F + 12" FOR FULL SWING CRANK

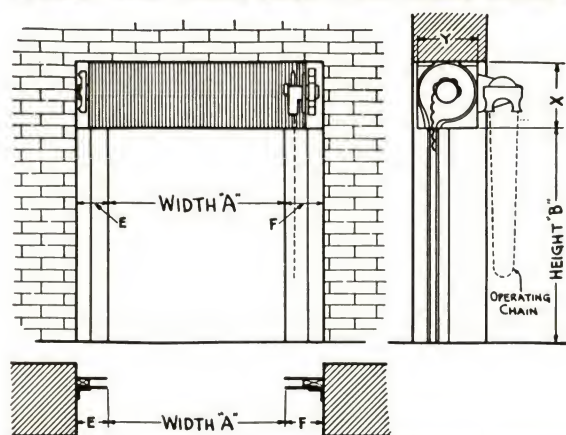


Locking of the F. C. 20 is accomplished by placing a padlock through one of the holes on the wheel placed above the crank box. A lug on the crank box casting engages with the lock and prevents the shaft being turned.

F.C. 20. CLEARANCE DIMENSIONS, INCHES

Height B, Ft.		8			9			10			11			12			13			14			15			16			17			18			19			20			21			22			23			24				
		X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E								
Width A, Ft.	8	6	12	11	6	13	12	6	13	12	6	14	13	6	14	13	6	15	14	6	15	14	6	16	15	6	16	15	6	17	16	6	17	16	6	18	17	6	18	17	6	19	18	6	19	18	6	20	19	6	20	19	6	
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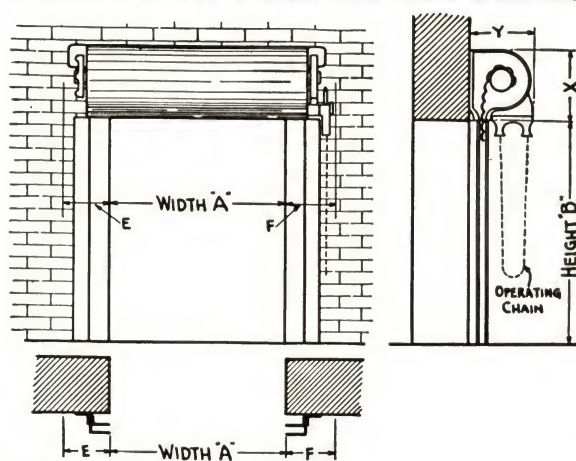
B.H. 20 CHAIN HOIST TYPE—UNDER LINTEL MOUNTING



B.H. 20. CLEARANCE DIMENSIONS, INCHES

Height B, Ft.		8				9				10				11				12				13				14				15				16			
		X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F				
Width A, Ft.	6	13	10	4	5	14	11	4	5	14	11	4	5	14	12	4	5	16	13	4	5	17	14	4	5	17	14	4	5	17	15	4	5				
	7	13	10	4	5	14	11	4	5	14	11	4	5	14	12	4	5	16	13	4	5	17	14	4	5	17	14	4	5	17	15	4	5				
	8	13	10	5	6	14	11	5	6	14	11	5	6	16	12	5	6	16	13	5	6	17	14	5	6	17	14	5	6	17	15	5	6				
	9	13	10	5	6	14	11	5	6	14	11	5	6	16	12	5	6	16	13	5	6	17	14	5	6	17	14	5	6	17	15	5	6				
	10	13	10	5	6	14	11	5	6	14	11	5	6	16	12	5	6	16	13	5	6	17	14	5	6	17	14	5	6	17	15	5	6				
	11	13	10	5	6	14	11	5	6	14	11	5	6	16	12	5	6	16	13	5	6	17	14	5	6	17	14	5	6	17	15	5	6				
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	19	17	14	6	8	18	15	6	8	18	15	6	8	19	16	6	8	19	16	6	8	22	19	6	8	22	19	6	8	22	19	6	8				
	20	17	14	6	8	18	15	6	8	18	15	6	8	19	16	6	8	19	16	6	8	22	19	6	8	22	19	6	8	22	19	6	8				
21	17	15	6	8	18	15	6	8	18	15	6	8	20	18	6	8	22	19	6	8	22	19	6	8	22	20	6	8									
22	17	15	6	8	18	15	6	8	18	15	6	8	20	18	6	8	22	19	6	8	22	19	6	8	22	20	6	8									
23	17	15	7	9	18	15	7	9	18	15	7	9	20	18	7	9	22	19	7	9	22	19	7	9	22	20	7	9									

F.H. 20 CHAIN HOIST TYPE—FACE MOUNTING

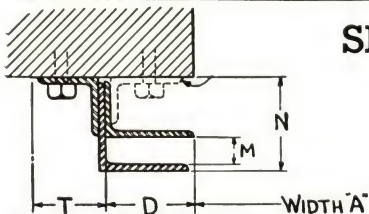


Note: For doors of intermediate sizes, use clearance dimensions listed in either table for next larger width or height.

Slat No. 2 used on doors of sizes listed above heavy line. Slat Nos. 4 and 10 used on doors of sizes listed below heavy line.

F.H. 20. CLEARANCE DIMENSIONS, INCHES

Height B, Ft.	Width A, Ft.																																				
	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24				
Width A, Ft.	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	
	6	12	13	6	7	13	13	6	7	14	13	6	7	15	15	6	7	16	17	6	7	17	17	6	7	18	18	6	7	19	19	6	7	20	20	6	7
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	8	12	13	6	7	13	13	6	7	14	14	6	7	15	15	6	7	16	17	6	7	17	17	6	7	18	18	6	7	19	19	6	7	20	20	6	7
	9	12	13	6	7	13	13	6	7	14	14	6	7	15	15	6	7	16	17	6	7	17	17	6	7	18	18	6	7	19	19	6	7	20	20	6	7
	10	12	13	6	7	13	13	6	7	14	14	6	7	15	15	6	7	16	17	6	7	17	17	6	7	18	18	6	7	19	19	6	7	20	20	6	7
	11	12	13	6	7	13	13	6	7	14	14	6	7	15	15	6	7	16	17	6	7	17	17	6	7	18	18	6	7	19	19	6	7	20	20	6	7
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	19	16	17	7	8	16	18	7	8	17	17	6	7	18	18	6	7	19	18	6	7	20	19	6	7	21	19	6	7	22	20	6	7	23	20	6	7
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No. 4 and No. 10 Slat—Used on extremely wide doors. Rolled from 20, 18, and 16 U. S. gauge. $\frac{7}{8}$ in. depth of crown.

Note: Schedule below gives guide clearances required and slat required for doors of various widths.

SCHEDULE OF CLEARANCES FOR TYPICAL CURTAIN GUIDE

	Width-A, ft.	D, in.	M, in.	N, in.	T, in.
Slat No. 2	to 7 incl.	2	$\frac{7}{8}$	$3\frac{1}{2}$	$2\frac{1}{2}$
	over 7 to 11 incl.	$2\frac{1}{2}$	$\frac{3}{4}$	$3\frac{1}{2}$	$2\frac{1}{2}$
	over 11 to 14 incl.	3	$\frac{5}{8}$	$3\frac{1}{2}$	$2\frac{1}{2}$
Slat Nos. 4 and 10	to 14 incl.	$2\frac{1}{2}$	$1\frac{1}{8}$	5	$2\frac{1}{2}$
	over 14 to 17 incl.	3	$1\frac{1}{8}$	5	$2\frac{1}{2}$
	over 17 to 22 incl.	$3\frac{1}{2}$	$1\frac{1}{8}$	5	$2\frac{1}{2}$
	over 22 to 24 incl.	4	$1\frac{1}{8}$	5	3
	over 24 to 32 incl.	6	$1\frac{1}{8}$	6	4
	over 32 to 40 incl.	8	$1\frac{1}{8}$	6	4

SLATS & CLEARANCES

No. 2 Slat—Used on average size door. Rolled from 22, 20, 18 and 16 U. S. gauge open hearth copper-bearing steel, hot galvanized. 9/16 in. depth of crown.

WINDLOCKS

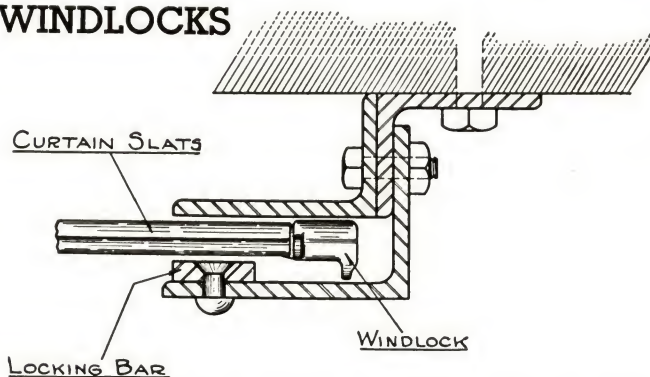


Illustration shows how endlocks are designed with lug, which engages with a locking bar attached to the guide. This prevents curtain from leaving guide because of deflection from tremendous wind pressure or other forces. Provided wherever door is to be subject to extreme wind pressure. Otherwise type of endlock shown on page 7 is used.

"Akbar" Fire Doors

THE POSITIVE, AUTOMATIC CLOSING FIRE GUARD

Akbar is a super Fire Door that is distinctly a Kinnear product, and sold only by Kinnear or through authorized representatives. It is designed primarily for fire protection purposes for openings that require Underwriters' labeled equipment and where insurance rates are a consideration. But it is also a service door, available for service purposes at all times, which affords maximum service door economies. Through the incorporation of various special Kinnear features automatic closure of Akbar is both positive and controlled. It is a silent guardian against fire that can be built to fit practically all classes and sizes of openings in either old or new buildings.

Nothing is more inducive to the rapid spread of fire than drafts which carry the flame through passageways and window openings. Kinnear Fire Doors offer an automatic closure for such openings . . . an inexpensive form of insurance against the numerous losses caused by a serious fire. Their effectiveness as a fire guard has been proved in major conflagrations throughout the country . . . Kinnear equipped buildings being the only ones standing in an otherwise completely demolished area.

WHY AKBAR HAS NO EQUAL

In general appearance and principle of operation, the Kinnear Akbar Fire Door is similar to the Steel Rolling Service Door. But, in addition, they are provided with mechanism for positive, automatic closure in case of fire, as well as embodying numerous other construction features which make them a foremost fire protective device. The careful purchaser will find a study of the following points and the illustration on the opposite page, descriptive of an Akbar Manual Automatic Door for interior service (Class A, B, and C), of exceptional interest.

1. BRACKETS

High test gray iron, providing a high factor of safety. Integral cast bracket mouth and stops give smooth operation, eliminating excessive drag of curtain on stops.

2. HOODS

Neatly formed from hot galvanized sheet metal of No. 24 U. S. gauge, fitted to give tight enclosure to coil. Reinforcing beads and flanges prevent deflection.

3. CURTAIN

Composed of interlocking slats of hot galvanized copper-bearing steel and not less than No. 20 U. S. gauge on class A, B, and C doors; and 22 U. S. gauge on class D doors. Slats are designed to have a high crown to provide rigidity. Hinging centers so arranged to give free action to the curtain and to properly nest when coiled on the barrel.

4. SPRING BARREL

To encase counterbalance mechanism. Made from heavy steel tubing or pipe of thickness and diameter particularly designed to carry the curtain load and minimize deflection, thereby preventing binding in barrel bearings. Main bearings in supporting barrel are roller bearings.

5. COUNTERBALANCE

Composed of helical springs wound from especially heat-treated steel and tempered with oil. Counterbalances individually tailored and tested on each job.

6. RINGS

Rings of malleable iron of special involute shape, designed to coil the curtain with a uniformly increasing diameter. Size adaptable to provide an initial diameter sufficient to insure uniform and constant counterbalance for all points of the door travel.

7. SHAFTING OR TENSION ROD

Of sufficient size to carry the torsional load of the spring counterbalance and of cold rolled polished steel, in order to eliminate friction in all bearings.

8 and 9. BARREL LOCKS

The weight of the curtain is balanced by springs, but when the curtain is down in the closed position, it is also supported by the barrel lock, in order to eliminate the danger of the curtain collapsing in case the temper of the spring is lost from the excessive heat of a fire.

10 and 11. AUXILIARY RETAINING WHEELS

These wheels are attached to the tension shaft (16) of the auxiliary spring (15). This spring (15) can, therefore, function only when the wheels (10 and 11) are free to turn after being released from automatic closure.

12. SAFETY GOVERNOR

This governor retains the wheels (10 and 11) and is itself held in place by the release levers (13 and 14). When these levers release the governor, it permits the wheels to revolve only at a safe speed. Therefore, the force of the auxiliary spring (15) is controlled, thus eliminating any danger of personal injury to persons accidentally in the opening, and closing on the floor without impact.

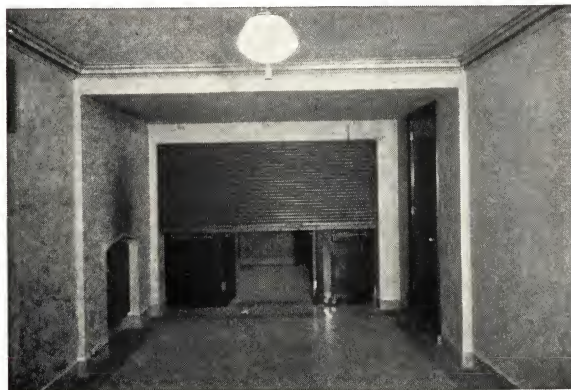
13 and 14. RELEASE LEVERS

The automatic closing mechanism is retained by these levers. All contact points are either covered or made from non-corrodible metals, in order to eliminate any possible freezing together. The lever (14) is held up by fusible links (25) which release at a temperature of 160 degrees F.

15 and 16. AUXILIARY SPRING AND TENSION ROD

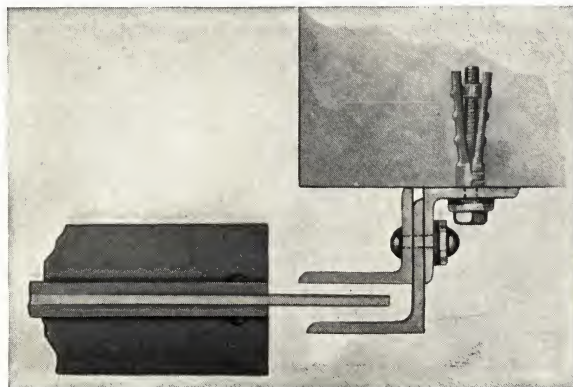
This spring is anchored to the tension rod, which is in turn held in place by the auxiliary wheels (10 and 11). It always carries stored-up energy sufficient for completely and positively closing the door from any position in the opening when automatically released. Independent of the counterbalance spring, the counterbalance is unmolested when door is automatically closed.

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Left:
Closing a fire wall opening in a passageway with a Kinnear Akbar Door. Though the door is normally kept in the open position, the curtain gives a clean-cut appearance when closed.

Right:
Expansion provisions: Ample clearance between ends of curtain and back of guide and bolts and rivets in slotted holes with steel and fusible washers.



17. BARREL PLUGS

These close the ends of the barrel, carrying the springs and are of heavy cast-iron, especially designed for holding the ends of the spring and eliminating the usual excessive strain at the spring ends.

18. ADJUSTING WHEEL

This is connected to the tension rod (7), carrying the counter-balance spring and attached to the bracket opposite the one carrying the automatic mechanism. The tension of the counter-balance spring is controlled by this wheel, permitting adjustment of the door's operating balance.

19. DROP HOOD OR BAFFLE

A metal shield of the same gauge as the hood is attached to the main hood by a continuous beaded joint, permitting the shield to hinge over the curtain coil. This shield forms the drop hood and is held up out of the way by a fusible link attachment (20). In case of fire, the link melts and the drop hood drops on the coil and becomes a baffle against passage of smoke and hot gases around through the bracket.

20. HOOD FUSIBLE LINKS

These links hold the drop hood or baffle out of the way during normal operation and are so distributed to provide necessary alignment of the hood. Fusible at 160 degrees F.

21. GUIDES

Fabricated from structural steel of at least 3/16 inch thickness. Slotted holes are provided for the rivets holding angles or plates

together and for the bolts securing guide to the wall. Heat destructible washers are placed underneath the heads of the rivets and bolts, thus providing means for expansion and eliminating the danger of buckling in case of fire. The depth of the grooves is increased to accommodate the increase in width of openings.

22. CLEARANCE (See Illustration on Page 10)

Sufficient clearance is provided between ends of curtain and back of guides and between all other operating parts, to accommodate an expansion for temperatures up to and including 1800 degrees F.

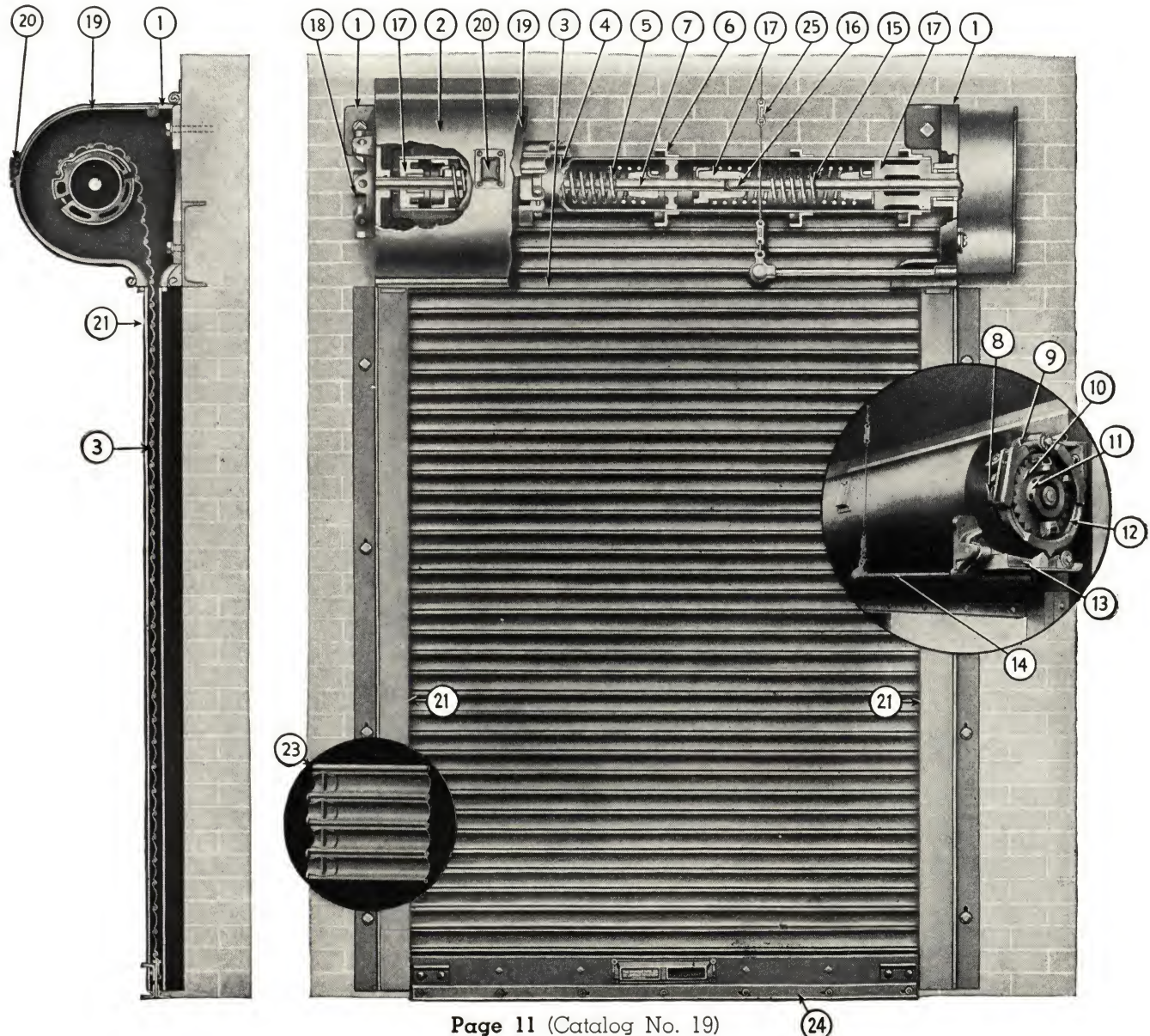
23. END LOCKS

These are placed on every slat and are made of malleable iron, shaped to close the concave ends of slats and to prevent the passage of hot gases and smoke around edge of curtain. These end locks retain slats in place, maintain alignment and protect the slats against abrasion in guides.

24. BOTTOM BAR

Designed to reinforce the bottom of the curtain and made of two angles and a flat plate. Provided with handles for raising the door and with stops for retaining it, when open, in an exact position against the coil bracket and free for a direct start in closing automatically in case of fire. Slide bolt locks, as used on steel rolling service doors, can be furnished on these bottom bars when specified.

NOTE: The bottom bar carries both the Underwriters' label and Kinnear's name plate which bears the number that will identify the door.



UNDERWRITERS' LABELS

Kinnear Fire Doors and Shutters are inspected by the Underwriters' Laboratories, Inc., and when built within size limits, listed below, bear the required label. While the Underwriters' label is the assurance of an acceptable and rated fire guard, it is not an indication of maximum quality, as set forth in the following quotation taken from their code book: **PRODUCTS OF THE MANUFACTURERS LABELED AND LISTED AS MENTIONED HEREIN ARE NOT NECESSARILY EQUIVALENT IN QUALITY OR MERIT; THE LABELING AND LISTING INDICATING ONLY COMPLIANCE WITH UNDERWRITERS' STANDARDS.**

In making comparisons, this point should be considered, as Kinnear Doors embody refinements that are unique and which increase their value and utility.

METHODS OF OPERATION

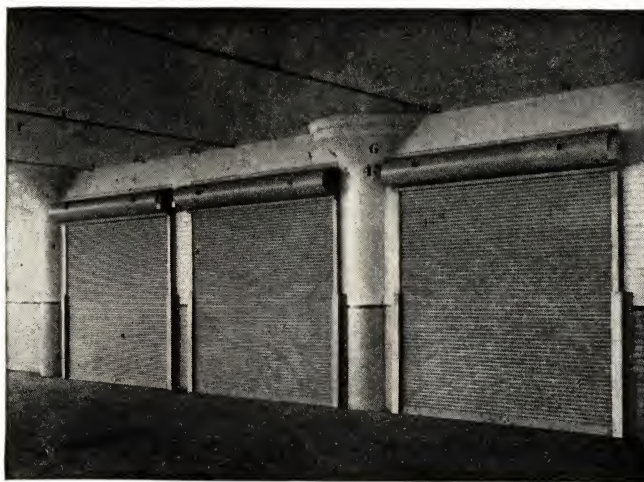
While provided with mechanism for automatic closure, Kinnear Fire Doors may be arranged for various methods of operation, when also being used for service purposes. They are, namely: manual push-up, chain hoist, crank hoist or motor. Illustrations below show how the automatic closing mechanism is incorporated in the case of chain and crank hoist.

INSTALLATION

As illustrations show, Kinnear Fire Doors can be mounted on the face of the wall with brackets and coil entirely above the bottom of the lintel; or in the opening, in which case the brackets and coil are located on the jambs or in reveals provided in the jambs.

Where an opening requires a door on both sides of the wall and it is desirable to mount the mechanism between the jambs, the coils are placed either opposite each other or one above the other, depending upon the thickness of the wall.

If Kinnear Engineers are given the opportunity to work with the Architect and Contractor during the designing of the building, it is frequently possible to completely conceal all working parts of the door and through the use of marble, bronze or other materials, make a very attractive installation.

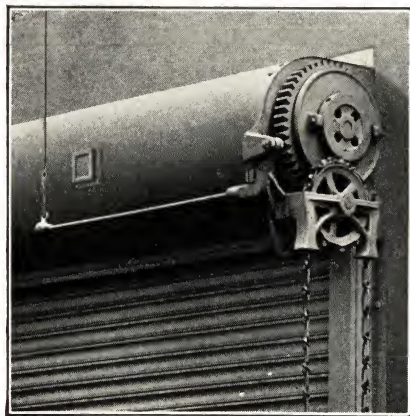
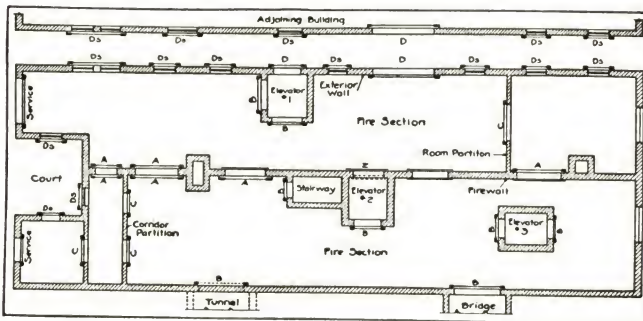


Showing how the interlocking steel slat curtain of an Akbar Door completely seals the opening with a positive fire stop. While provided with an automatic closing device, they are also arranged for easy opening or closing when ordinary door service is required.

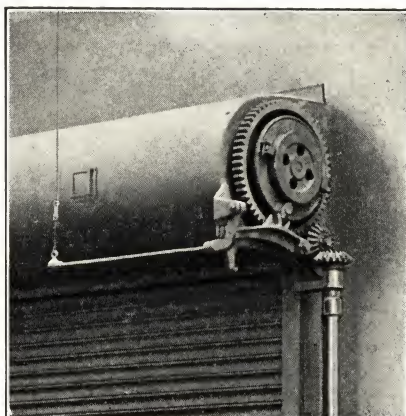
TYPES OF LABELS

The drawing below illustrates the four classifications under which Kinnear Doors are labeled. The size limitations established by the Underwriters for each classification is as follows:

- Class A—Openings in fire walls not exceeding 80 sq. ft.; the width or height not to exceed 12 ft.
- Class B—Openings in vertical shafts, such as elevator shafts, the size limits being the same as in Class A.
- Class C—Openings in corridors and room partitions, the size limits being the same as in Class A.
- Class D—Openings in exterior walls not exceeding 100 sq. ft.; where width or height does not exceed 12 ft.



Chain Operated Akbar—
Face of Wall Mounting

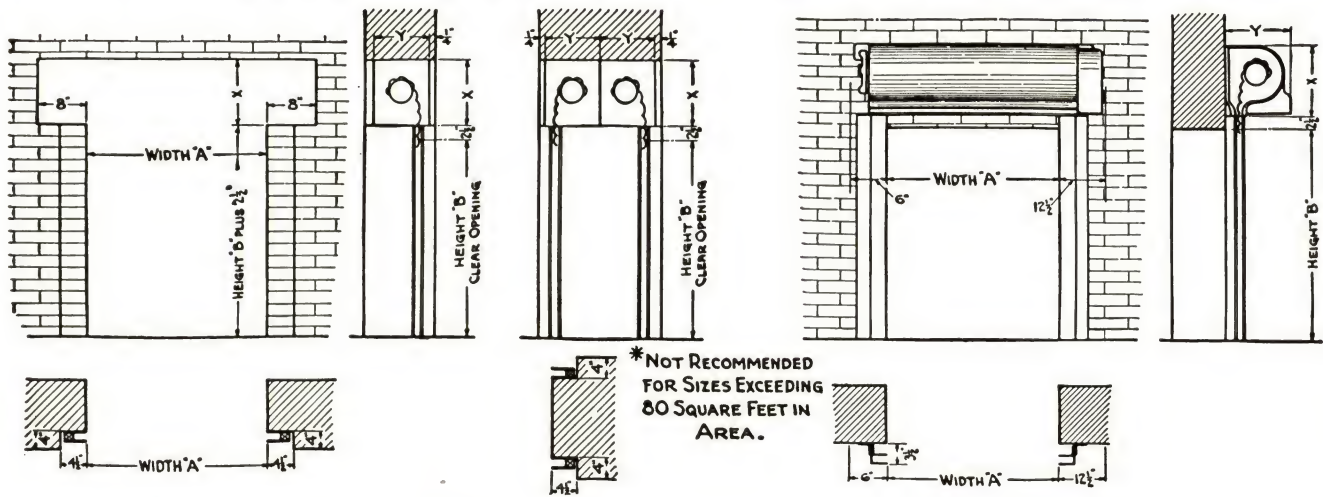


Crank Operated Akbar—
Face of Wall Mounting

As Kinnear Fire Doors of large size are built according to the same standards, the Underwriters will inspect and issue an oversize label on construction (with exceptions) for doors not exceeding 24 ft. in width or height.

As requirements vary in different localities, the local Inspection Bureau should be consulted. Kinnear Engineers will, of course, work closely with you and the Inspection Bureau and gladly submit detailed recommendations. This engineering assistance is only part of the complete service at your disposal when you carry "Kinnear" in your specifications.

UNDERWRITERS' LABELED—AKBAR FIRE DOORS—AUTOMATIC CLOSING HAND LIFT TYPE, UNDER LINTEL MOUNTING HAND LIFT TYPE, FACE MOUNTING



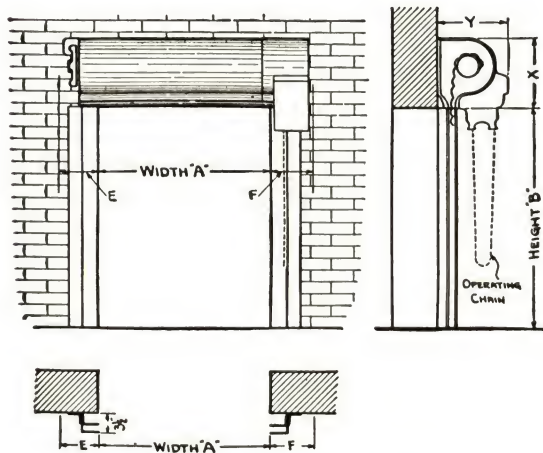
CLEARANCE DIMENSIONS, INCHES

Width A, Feet	Hgt. B, Ft.	6		7		8		9		10		11		12	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
		17	13	17	13	17	13	17	14	18	15	18	15	20	17
3	4	17	13	17	13	17	13	17	14	18	15	18	15	20	17
4	5	17	13	17	13	17	14	17	14	18	15	20	17	20	17
5	6	17	13	17	13	17	14	17	14	19	16	20	17	20	17
6	7	17	13	17	14	17	14	19	16	19	16	20	17	20	17
7	8	17	13	17	14	19	16	19	16	19	16	20	17	20	17
8	9	17	13	17	14	19	16	19	16	19	16	20	17	20	17
9	10	17	13	19	16	19	16	19	16	19	16	20	17	20	17
10															

CLEARANCE DIMENSIONS, INCHES

Width A, Feet	Hgt. B, Ft.	6		7		8		9		10		11		12	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
		15	16	15	16	15	16	17	18	17	18	18	18	18	18
3	4	15	16	15	16	15	16	17	18	17	18	18	18	18	18
4	5	15	16	15	16	16	16	17	18	17	18	18	18	18	18
5	6	15	16	15	16	16	16	17	18	17	18	18	18	18	18
6	7	15	16	15	16	16	16	17	18	17	18	18	18	18	18
7	8	15	16	16	16	16	16	18	18	18	18	18	18	18	18
8	9	15	16	16	16	18	18	18	18	18	18	18	18	18	18
9	10	15	16	16	16	18	18	18	18	18	18	18	18	18	18
10															

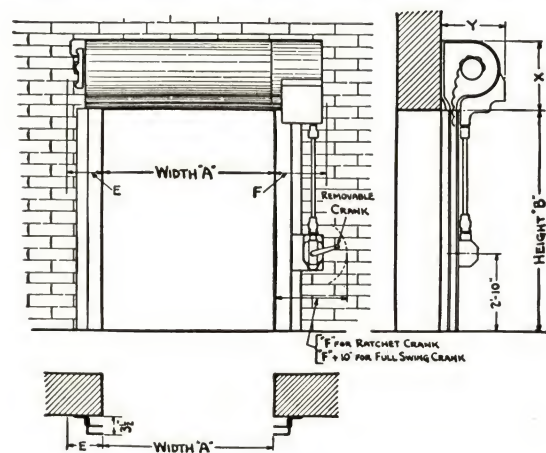
CHAIN HOIST TYPE, FACE MOUNTING



CLEARANCE DIMENSIONS, INCHES

Width A, Feet	Hgt. B, Ft.	6				7				8				9				10				11				12			
		X Y E F				X Y E F				X Y E F				X Y E F				X Y E F				X Y E F				X Y E F			
		X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F
5	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
6	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
7	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
8	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
10	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
11	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9
12	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9	9	17	20	9	9

CRANK SHAFT TYPE, FACE MOUNTING



CLEARANCE DIMENSIONS, INCHES

GENERAL DIMENSIONS, FEET																						
	Hgt. B, Ft.	6			7			8			9			10			11			12		
		X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	X	Y	E	F	
Width A, Feet	5	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	6	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	7	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	8	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	9	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	10	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
Width A, Feet	11	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	13	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	
	14	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	17	17	9	12	

Note: For doors of intermediate size, use clearance dimensions listed for next larger width or height.
Slat No. 2 used on all door sizes listed on this page.

"Superior" Fire Window Shutters

AUTOMATIC AND DESIGNED FOR PERIODIC TESTING

Superior Fire Shutters are substantially the same in design as the Kinnear Akbar Fire Doors, except that they are not constructed for service raising and closing. They are provided with the safety governor regulating the closing speed so as to eliminate all personal danger hazards and destructive impacts on the window sill. Provision is made for periodic testing. By the tripping of a release chain accessible from the inside

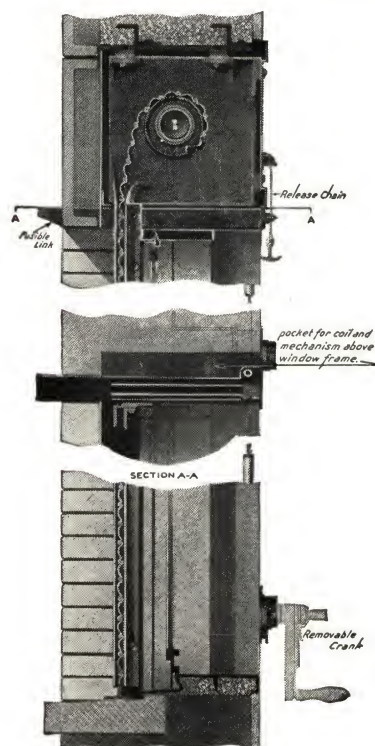
wall, the shutter is closed the same as if it were automatically closed in case of fire. It can then be raised to the open position by a gearless rewind mechanism and a hand crank easily accessible from the floor. Crank to be removed when not in use.

To insure positive starting, a powerful push-down spring gives the curtain a hammer starting blow of approximately 200 inch-pounds simultaneously with fusing of the releasing link.

Superior Fire Shutters are constructed to the standards of the Underwriters' and labeled for exterior window openings not exceeding 100 sq. ft. in area; or more than 12 ft. in width or height. True to its name this is a superior device embodying the same skilled workmanship and high quality materials as found in other Kinnear Equipment.

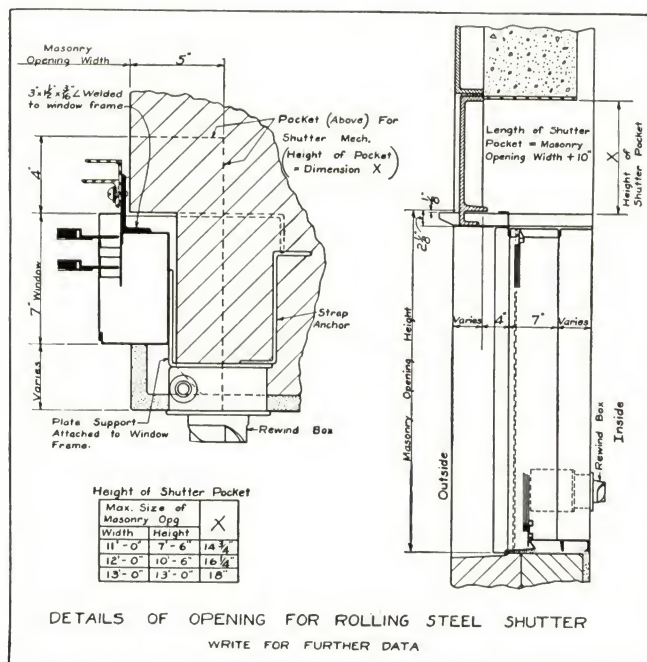
As can be seen from the illustrations the Superior Fire Shutter can be almost completely concealed, particularly when they are installed at the time the building is constructed. For application on old buildings, the coil and brackets are mounted on the outside face of the wall, above the lintel.

NOTE: The Superior Fire Shutters are ideal also for dark rooms, such as x-ray rooms in hospitals, etc. Many of them are at this time being used for that purpose. Special recommendations will be submitted upon request.



The Superior Fire Shutters installed in the Cincinnati Suburban Telephone Building, Cincinnati, Ohio.

Equivalent to a man standing ready at all times to close the window openings in the event of fire.



Architects' Specifications

FOR KINNEAR STEEL ROLLING DOORS AND OPERATORS

STEEL ROLLING SERVICE DOORS

Openings—Shall be equipped with Kinnear Steel Rolling Doors.

Curtain—Shall be of interlocking slats, rolled not drawn, formed in easy curves without sharp bends, from open hearth steel gauge (see note below). Slats to be of section sufficiently large to give curtain strength to safely resist a wind load of 20 lbs. per sq. ft., but for doors exceeding 25 ft. in clear width curtain shall be provided with lugs as windlocks to engage bars in guides and to lock the curtain against wind pressure. Each alternate slat shall be fitted with malleable endlocks $\frac{3}{8}$ in. thick. Bottom bar to be two angles placed back to back.

NOTE: The gauge of the slats to be specified according to the following chart:

Height	8' 0"	12' 0"	28' 0"
Width		22 U. S. Gauge,	
		20 U. S. Gauge	
		18 U. S. Gauge	
		18 U. S. Gauge (with windlocks)	
	33' 25' 20' 13' 6"		25' 18' 12' 6"

Galvanizing—To be hot process, free from blisters and other imperfections, with a high grade pure zinc coating.

Counterbalance—Curtain to be coiled on a pipe of size sufficient to carry the door load with a deflection not to exceed .03 in. per ft. of opening width, and to be evenly balanced by helical springs contained in pipe.

Coil Brackets—To be of high grade gray iron designed to house ends of the coil.

Hood—The coil to be housed with a sheet metal hood No. 22 U. S. gauge for doors over 20 ft. wide and No. 24 U. S. gauge for narrower sizes.

Guides—Built of structural steel to form a slot of sufficient depth to retain curtain for doors under 25 ft. in width in guides against heavy wind pressure without using the windlocks, but for doors exceeding this width guides must be provided with anchors for windlocks.

ALTERNATES FOR STANDARD SERVICE AND MOTOR OPERATION

Standard Service

Operation—To be—

(A) Manually by means of handles on bottom bar.
(B) Hand chain, sprocket and gear; maximum allowed pull 35 lbs.

(C) Crank, shafting and gear; maximum exertion on crank 20 lbs.

Gear—To be of best grade gray iron, cast teeth machine moulded from machine cut patterns, except machine cut teeth on motor operated doors.

Motor Operation

Operation—Doors to be operated by means of an electric motor. The control circuit shall be closed by means of push buttons, and automatic limit switches will break circuit at termination of travel. Door to be stopped at intermediate points by stop button from where it can then be operated in either direction.

Motor—To be high starting torque elevator or hoist motor, raising or lowering curtain at approximately .67 ft. per second.

Reduction Gear—Of the power unit shall be machine cut gear completely housed and running in oil bath.

Emergency Operation—A control for automatically engaging a sprocket and chain and releasing the brake, shall be operable from the floor. A device which shall automatically prevent the motor from operating until emergency sprocket is disengaged shall be provided. Emergency operation shall not affect timing of limit switch.

Control Switches—Shall consist of 3 push button switch "open," "close" and "stop"; remote control magnetic enclosed switch panel for reversing motors, and automatic limit switch.

Erection—All doors shall be erected by the manufacturer or his authorized representative and shall be guaranteed against defective material and workmanship for a period of one year from the date of completion of erection.

Wiring—Wires, wiring, conduit and fuses are not furnished or erected by Rolling Door Contractor, but are to be installed with the control switches by others, according to diagrams furnished by door contractor.

STEEL ROLLING DOORS LABELED BY NATIONAL BOARD OF FIRE UNDERWRITERS

Openings—Shall be equipped with Kinnear Steel Rolling Automatic Fire Doors of the Akbar Construction.

Label—All doors to bear the label of the National Board of Fire Underwriters.

NOTE: The National Board of Fire Underwriters label and classify the Akbar doors, as Class "A" for fire walls, "B" for vertical shafts, "C" for corridor and room partitions and "D" for exterior walls, where the opening does not exceed in area 80 sq. ft. for Class "A," "B" and "C" doors and 100 sq. ft. for Class "D" doors, or 12 ft. in width or height. Openings exceeding these dimensions in size and not exceeding 24 ft. 0 in. in either dimension are furnished with Underwriters' Oversize Label.

Operation—All doors to be automatic closing in the event of fire. Doors not exceeding 8 ft. high or 80 sq. ft. in area can be operated by means of handles on the bottom bar; but larger sizes shall be operated through reduction gear by hand chain (or crank).

Automatic Closing Device—To be thermally controlled by means of a fusible link. The door shall be forced to a closed position by an auxiliary spring in spring barrel which is inoperative during normal operation and released by thermal control without affecting the permanent adjustment of the counterbalance spring.

Counterbalance—Curtain to be evenly balanced by helical springs contained within spring barrel. Counterbalance to be permanently maintained and doors shall operate easily both normally and after automatic closure.

Safety Device—To be an automatic governor of escapement type inoperative during normal operation but which shall so control the speed of the curtain during automatic operations as to prevent injury to persons accidentally under the door.

Curtain—To be of Kinnear interlocking slats rolled from copper bearing steel with no sharp bends and hot galvanized. The ends of the slats to be fitted with endlocks $\frac{3}{8}$ in. thick. Gauge of metal and type of endlocks as established by National Board of Fire Underwriters for the specified class risk.

Gauge of metal to be No. 20 U. S. gauge for Class "A," "B" and "C" doors and No. 22 U. S. Gauge for Class "D" doors.

Brackets—To be high grade iron with roller or ball bearings in bracket for revolving end of barrel.

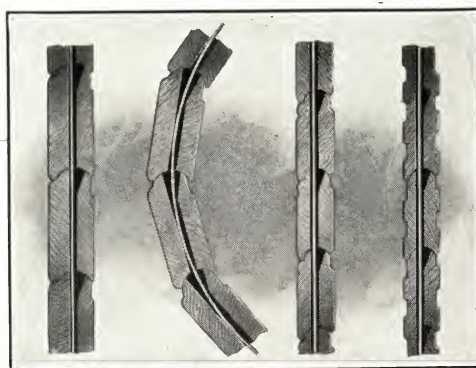
Guides—To be of structural steel $\frac{3}{8}$ in. thick arranged for expansion at all rivet and bolt connections.

Hoods—The coils to be enclosed with sheet metal housing of No. 24 U. S. gauge. For interior wall doors hoods to be furnished with a drop hood thermally controlled, closing against the coil when automatically released, but not interfering with coil during normal operation.

Paint—All parts of the door except mechanism to be given one shop coat of red oxide; the mechanism to be dipped in flat black.

Erection—All doors shall be erected by the manufacturer or his authorized representative and shall be guaranteed against defective material and workmanship for a period of one year from the date of completion of erection.

WOOD ROLLING PARTITIONS



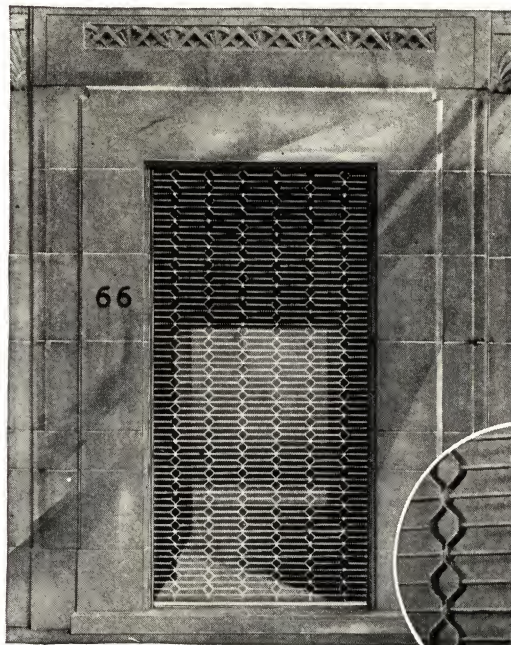
Kinnear Wood Rolling Doors and Partitions are the same in principle of operation as the Steel Rolling Door. Slats of long leaf pine, cypress, quarter-sawn oak or birch are assembled on phosphor bronze tapes in the manner illustrated. Upon request Kinnear Engineers will gladly submit detailed recommendations.

Rolling Grille

STEEL
STAINLESS STEEL
BRONZE
ALUMINUM

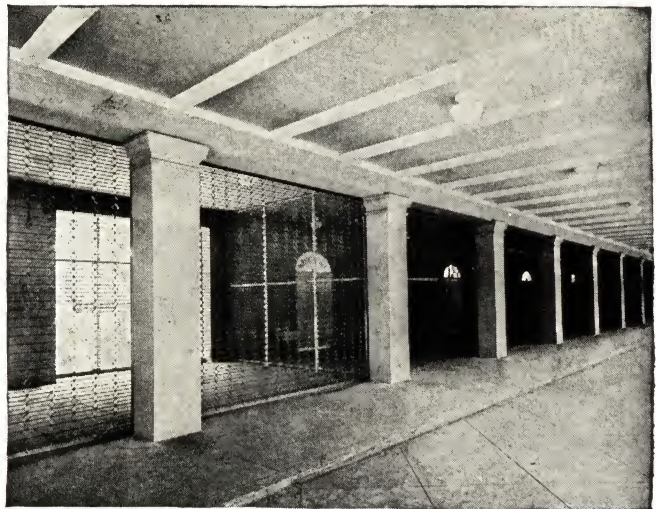
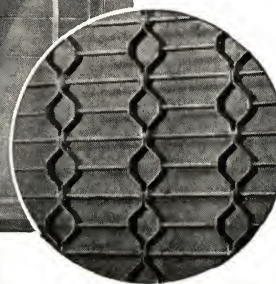
ADVANTAGES

The Rolling Grille is another Kinnear development. Embodying the same principle of construction and built by the same competent and skilled mechanics as the Kinnear Rolling Doors, the Rolling Grille is a product of proven merit ideally suited for many new and modern uses. It offers a permanent installation that can be quickly opened and closed, providing a safeguard against trespassing, burglary and kidnapping—without sacrifice of the passage of air and light or obstruction of vision. Coiling in a small space above the lintel it occupies no useful space. Accurately counterbalanced it is easily opened or closed and can be locked closed. Attractive in design and built in various metals, it



As illustrated, the grille is composed of round steel bars joined by strong pressed steel links, affording an artistic design that is strong and durable.

The spaces between the component parts are small enough to prevent a man's hand being inserted through the grille work.



A battery of Kinnear Grilles installed in a New Orleans Market House for closing off the stalls.

Ideal because air circulation is essential particularly where there is perishable goods.

harmonizes with any architecture. Its practicability for numerous purposes is shown by its rapidly increasing popularity.

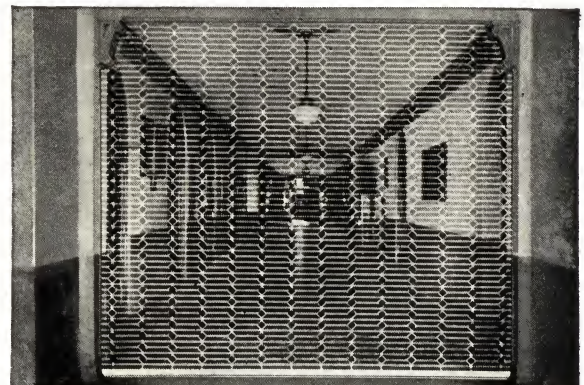
USES

While the Rolling Grille readily suggests itself for a multiplicity of uses, a few of the more common uses are listed as follows: Exterior and interior commercial openings; school buildings, store fronts, concessions, show windows and display rooms containing valuable merchandise; day time protection of vaults, bank tellers; industrial openings; elevator shafts; commission houses containing perishable merchandise; piers and platforms. Private and public homes; residences; and so forth.



A special center opening in these Grilles permits a truck being loaded from the conveyor without admitting anyone to the shipping room.

Outside face of the openings are equipped with Steel Rolling Doors, for closure at night.



Illustrating the suitability of the Kinnear Rolling Grille for closing off corridors.

With mechanism completely concealed it is out of sight when open, but when closed an impassable barricade against trespassing.

GENERAL CONSTRUCTION

The Grille proper is made of round steel bars carrying or connected by strong pressed steel links (also other metals). It coils in a barrel journaled in heavy cast iron brackets, and is locked in and travels in steel guides mounted at the side of the opening. Helical springs enclosed in the barrel provide perfect counterbalance. A hood of suitable design and metal is furnished for covering the barrel and coil. Customary to Kinnear practice, each grille is individually built to meet the particular requirement. Similar to the steel rolling door, the grille can be mounted on the face of the wall, with coil above the bottom of the lintel, or in the opening with coil between jambs or in re-

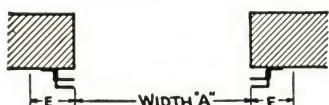
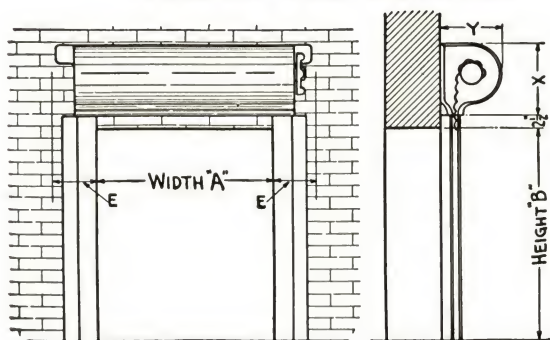
veals provided. The building can be designed to house and conceal all working parts.

The Grille can be arranged for operation by means of handle in bottom bar; chain and reduction gearing; crank and reduction gearing; or electric power equipment. The method employed usually being determined by the size of the grille.

For positive protection a secure locking arrangement is provided, the type depending upon the method of operation employed.

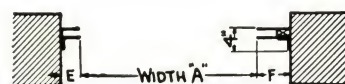
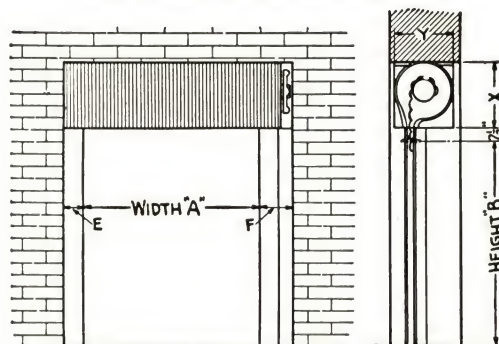
Whenever you have need for a guard of the grille type, write Kinnear Engineers for special recommendations on this new and modern equipment.

FACE OF WALL MOUNTING



Hand lift type not recommended for sizes exceeding 80 square feet in area. When in need of larger sizes write Kinnear for clearances and details.

BETWEEN JAMB MOUNTING



Hand lift type not recommended for sizes exceeding 80 square feet in area. When in need of larger sizes write Kinnear for clearances and details.

FACE OF WALL—CLEARANCE DIMENSIONS, INCHES

TABLE OF AREA, PERIMETER, CIRCUMFERENCE, AND VOLUME OF SOLIDS																						
Height B, Ft.		6			7			8			9			10			11			12		
		X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E
Width, A Feet	3	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	4	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	5	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	6	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	7	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	8	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	9	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	10	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	11	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6
	12	16	15	4	16	15	4	18	17	5	18	17	5	19	18	6	19	18	6	21	19	6

Note: For doors of intermediate sizes, use clearance dimensions listed for next larger width or height.

BETWEEN JAMBS—CLEARANCE DIMENSIONS, INCHES

Height B, Ft.		6			7			8			9			10			11			12				
		X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E	X	Y	E		
Width, A Feet	3	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	4	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	5	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	6	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	7	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	8	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	9	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	10	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	11	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3
	12	16	15	3	4	17	15	3	4	18	16	3	5	19	17	3	5	19	18	3	5	21	19	3

SPECIFICATIONS, KINNEAR ROLLING GRILLES

Grilles—Composed of round steel bars joined by pressed steel links of octagonal shape. Alternate bars welded to links. Remaining bars hinged so as to provide smooth operating, flexible grille. Bars $\frac{3}{8}$ in. diameter and links formed from $\frac{5}{8} \times \frac{1}{8}$ in. steel bars.

Counterbalance—Oil-tempered, helical springs wound from especially heat-treated steel and tempered with oil, mounted on cold, rolled polished steel shafting. Spring and shafting carried in heavy steel barrel, which has a three-fold purpose; viz: encases counterbalance mechanism, is load carrying beam, and provides axis around which grille coils. Barrel is of sufficient diameter to avoid deflection in excess of .03 in. per lineal foot barrel.

Barrel Rings—Barrel is provided with malleable iron rings of special involute shape, designed to coil the grille with a uniformly increasing diameter, thereby insuring uniform counterbalance.

Barrel Plugs—Cast iron plugs of special Kinnear design to eliminate excessive strain at spring ends.

Lock Links—Side edges of grille are provided with end links of special Kinnear design, which engage in guides providing a bearing surface and also locking the grille in guides against excessive deflection.

Bottom Bar—Structural steel. Increases grille's strength and facilitates operation.

Guides—Structural steel, designed and arranged to engage lock links and prevent grille from leaving guides under abnormal strain.

Brackets—Heavy gray iron castings with mouth and stops cast integral and with high factor of safety. Bearings of large proportions for barrel spindles.

Adjustment Wheel—Mounted at end of bracket for increasing or decreasing tension on counterbalance spring.

Hood—Neatly formed of hot galvanized sheet steel reinforced with beads and flanges.



Kinnear Grilles meet a need in modern school design, not only for corridors but also for the combination gym and auditorium . . . and here is a 27-ft. wide installation in a Cambridge, Maryland, school.

Bifolding Doors

No. 3, WEIGHT COUNTERBALANCED

This door is particularly suited for openings 12 ft. or higher, where heavy construction is desirable. Permitting the use of sash sections, it provides heavy duty service as well as admittance of light. Though built in both wood or steel, they are generally used for freight sheds and piers, thereby making steel preferable. Constructed of two sections made up of heavy galvanized steel sheets applied with closely butted joints to an angle frame made of members 4 in. or larger. The lower section telescopes with the upper and then the two sections, as a unit, slide to the overhead position on heavy steel horizontal tracks. The door is counterbalanced by cast iron weights encased in the columns. Operation is usually by

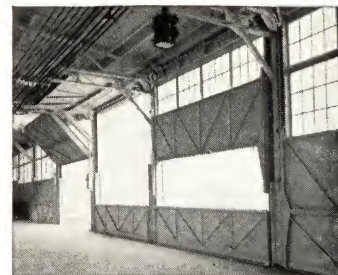
chain and reduction gearing. Through the use of high quality bearings in all bearing points, only a small amount of energy is required to start the door in motion.

Counterweights are connected to the door by block chain of high safety ratio, built of die formed links, producing not only a strong but also accurately running chain over the sprockets. To prevent the accidental drop of the door, in case of lifting chain breakage, when operating such tremendous weight, an automatic safety lock is provided. A cam grip, which operates on an angle guide and is held open by the weight of the door, is closed by a heavy spring force. Should the lifting chain accidentally break, the cams will grip the angle guide and support the door in place. The action of this lock is similar to an elevator safety lock and prevents the door from dropping should either or both of the lifting chains fail.

When the door is used on the upper decks of a pier it may be arranged to provide a barrier. The lower section of the door can be subdivided into two parts, the lower part being about 4 ft. high and detachable from the upper part of the section. The door can be raised with the two parts operating as one section or the lower part can be detached and allowed to remain in the opening as a barrier or guard to prevent pedestrians from passing through the opening.

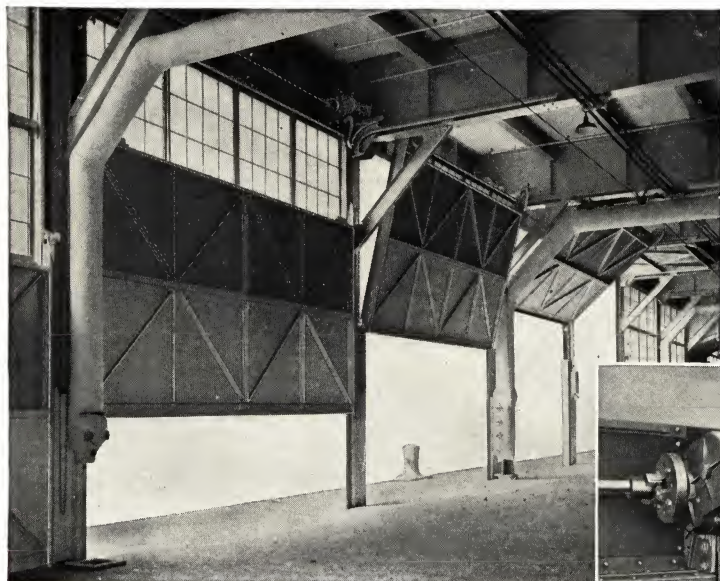
The chain sprockets are driven by the hand chain through spur gear reduction. These reduction gears are of steel, having machine cut teeth and are enclosed in an oil-tight housing. All bearings supporting the counterweights or doors, are supplied with grease tight roller or ball bearings.

As this door is engineered for the individual job, write for special recommendations.



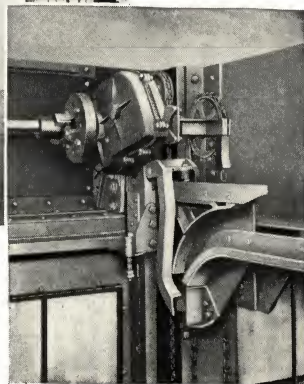
Illustrating how the Kinnear Steel Bifolding Doors installed on Pier 88, New York Harbor are arranged to provide a barrier on the upper decks.

Lower section is disconnected and remains in place, allowing the upper section to be opened.

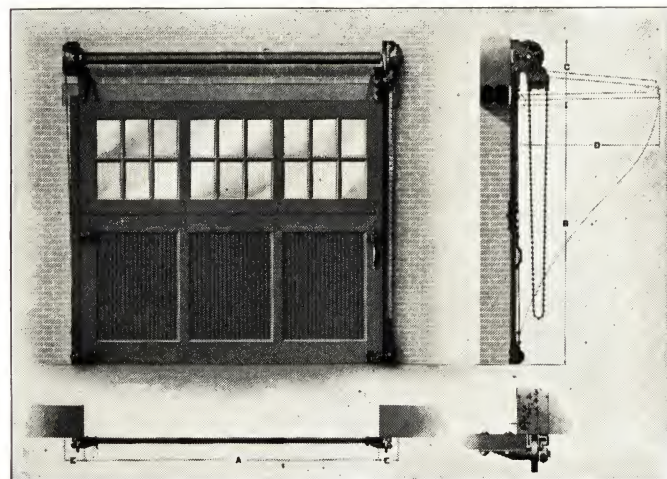


Above:
Illustrating how the two sections of a Bifold No. 3 telescope and then raise to an overhead position . . . out of the way.

Right:
A look at this mechanism is evidence of the excellent design and precision workmanship in a Kinnear Door.



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No. 5 BIFOLD, SPRING COUNTERBALANCED

The Bifold No. 5 combines the qualities necessary for a heavy-duty, quick-acting, space-saving wood door with the advantages of minimum clearance requirements and a large sash area. When desired it can also be constructed of steel. It is composed of two leaves, or sections, hinged and pivoting from brackets at the top corners of the opening.

Attached to a torsion spring counterbalance shaft placed above the lintel by means of steel cable and traveling in steel jamb guides, it folds to a position above the opening. Because of its simplicity, it reduces maintenance to a negligible factor.

When you are considering the installation of Bifolding Doors, Kinnear Engineers will gladly submit recommendations for your particular needs.

Power Units

In keeping with today's demand for greater speed and convenience, Kinnear Motor Operated Doors are rapidly becoming one of the most popular Kinnear installations. For rolling doors are especially adapted to electric operation, and the Kinnear Power Unit provides a rugged, compact and dependable operator which is available for any size new or old door. With control stations placed at any convenient point, the door can be remotely controlled with a press of a button . . . magically opening and closing it with speed, smoothness and dependency. The saving in time alone, which Kinnear Motor Doors effect, quickly pays for their moderate cost.

METHOD OF OPERATION

The door is driven by electric motor through reduction gearing, the operation being accomplished as follows:

By momentary contact of the "Open" or "Close" button on the operating switch the pilot circuit magnetically closes the main line reversing switch and starts the motor. The limit switch will, at the termination of the door travel, open the pilot circuit, thereby breaking the main circuit and simultaneously the magnetic brake will close, stopping the motor. The door can be stopped at any intermediate position by pushing the stop button, from which position it can either be opened or closed.

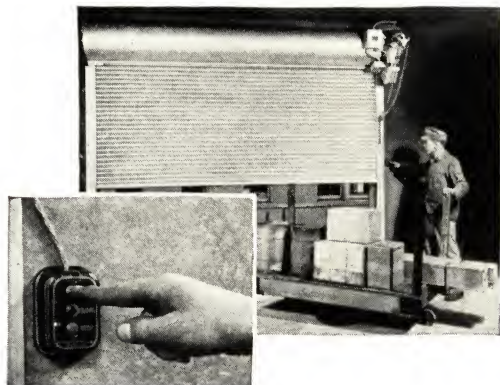
EMERGENCY OPERATION

A distinctive feature that has created a general preference for the Kinnear Power Unit is the provision for emergency manual operation by hand chain in the event of interrupted power service. This is accomplished by pulling down on a hand chain which instantly engages emergency operator, releases the motor brake and opens the motor control circuit which prevents the motor being inadvertently started until the emergency operator is detached.

After the emergency operator is engaged as above described, the door is operable by hand chain. When not in use the emergency operating and control chains are held out of the way by a keeper on the wall.

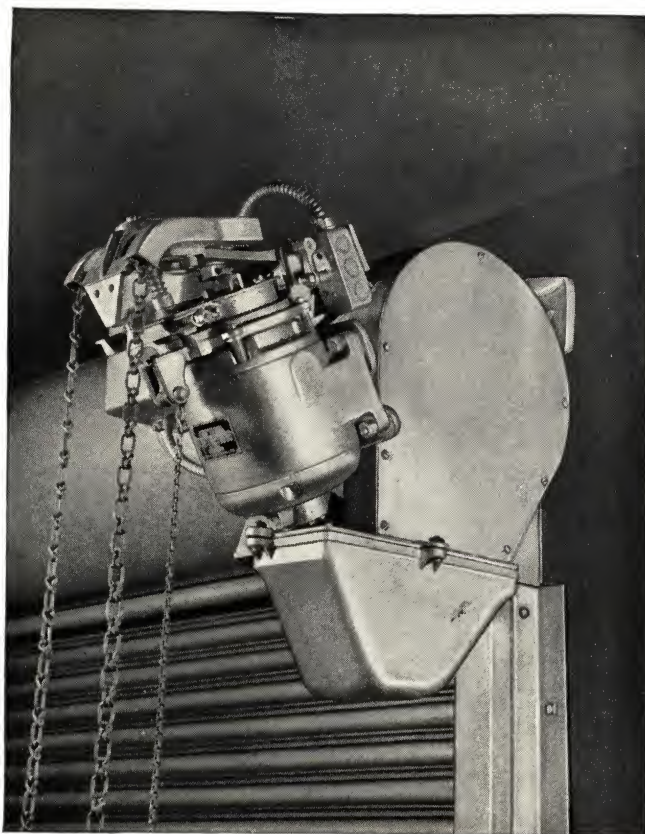
GENERAL SPECIFICATIONS

Each Kinnear Power Unit comprises the following: Power unit supports, motor reduction gears, magnetic brake, limit switch, emergency manual operation with interlocking limit switch, reversing panel and single station push button control. Motor is of series wound type for direct current and of high starting torque, elevator type, for alternating current. Available for 110-220-440-550 volts . . . A.C.—1, 2, or 3 phase . . . D.C. Push button control is three button type, labeled "Open," "Close" and "Stop."



With motor operation "finger tip" door control is an actuality.

One can quickly appreciate the economies and convenience, whether the control is close to the door or at some remote point, when Kinnear Motor Operated Doors are visualized as they are in the illustrations.



Power Unit Mounted on Bracket

Magnetic reversing panel for remote control is fully enclosed and mechanically interlocked.

WIRING

The wire, conduit and fuses are not furnished or installed by THE KINNEAR MANUFACTURING COMPANY, but are to be provided by others in accordance with wiring diagrams supplied by Kinnear.

GENERAL

Kinnear Power Units are built by Engineers who have not only spent years of painstaking effort in designing a highly perfected operator but who are also familiar with the doors upon which they are used. As a result, the operator and door is a perfectly matched, efficient combination. More complete details and quotations on equipment exactly suited to your needs will be gladly furnished upon request. Complete current characteristics should accompany all requests for quotations.

For other Kinnear Electric Door operating equipment, see page 23. As it is impossible for us to list all Kinnear equipment in this catalog, should the type of equipment you require not be shown, write Kinnear for special recommendations.

CONTROL STATIONS

While the stand control equipment is the three-button control described above, Kinnear is in a position to supply a wide range of control devices. For operation from the outside of the building a key operated switch, in which the "Open" and "Close" buttons are controlled by key only, is frequently desirable. Another popular arrangement for truck opening is a pull type control which permits the driver to operate the door by a pull cord. However, to obtain the most practical arrangement, ask Kinnear to study the problem and make recommendations.

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RoL-Top Doors

FOR COMMERCIAL, INDUSTRIAL OR RESIDENTIAL GARAGE USE

Like other Kinnear Doors, the RoL-TOP Door opens upward affording maximum convenience, efficiency and permanence of service, combined with the advantage of the admittance of light. It is ideally suited for old or new residence garages, service stations, warehouses, factories, boat houses and other buildings.

CONSTRUCTION

Attractively panel wood sections are hinged together with malleable iron hinges and fitted at both ends with heavy duty ball-bearing rollers. By means of these rollers, which operate in steel tracks or guides mounted on the jamb and extending horizontally back from the lintel, the door rolls to the overhead position. One or more springs, (see Deluxe and Standard Models) connected to the door by Trulay plow steel cable accurately counterbalances the door. A special sealing device and heavy cylinder lock makes the door weather-tight and burglar-proof. It can be arranged for operating manually, mechanically or electrically. Sections can be either solid or arranged for glass. The door throughout is built to the highest standards of workmanship and materials.

ADVANTAGES

The advantages of RoL-TOP are numerous. It raises over snow, ice and swollen ground. Never sags, sticks or binds. Out of the way of wind or car, staying where it's PUT. Lends itself to all styles of panel designs. Saves wall and floor space, permitting cars and other objects to be placed within a fraction of an inch of the door. It opens easily, rapidly and smoothly. Strong, rugged construction insures permanence and insignificant maintenance.

DISTINCTIVE FEATURES

RoL-TOP embodies a number of special features that enhance its smooth, easy operation and adds to its permanence and dependability. They are:

Safety Counterbalance—On the DeLuxe Model RoL-TOP is a torsion spring with a high factor, mounted on a solid steel shaft, in a fixed harnessed position. In case of accidental breakage, it can not damage life or property. It is neat . . . nothing to jangle or flop around. Pulling uniformly on both sides of the door, it insures smoother, easier and more quiet operation. It is the same counterbalance principle that has made Kinnear Steel Rolling Doors FAMOUS.

Continuous Angle Mounted Tracks—RoL-TOP tracks are mounted on the jamb with continuous angles, providing a rigid, strong mounting that will stand abuse, reduce vibration and noise and insures permanent alignment.

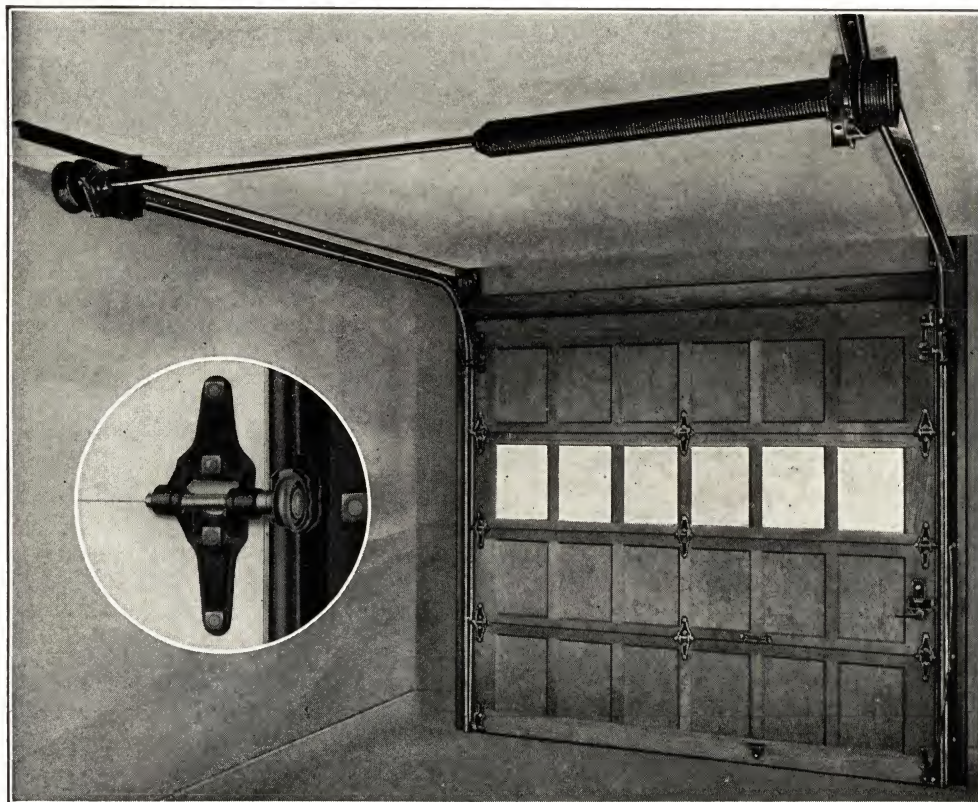
Heavy Hardware—Massive malleable iron hardware applied with through carriage bolts adds increased durability to RoL-TOP.

Closing Bracket—The roller arm at the top of the door automatically forces the top section of the door snug against the jamb and lintel, adding an extra precaution toward the elements.

Ball Bearing Rollers—Especially designed heavy duty rollers are used. They have a one-piece, solid steel tread operating around hardened steel race and sleeve. Operating on a shaft made with a shoulder and independent of the hinge, it is FREE FLOATING and yet locks the door securely in the tracks.

Cylinder Lock—A rugged spring-release slide bolt type of lock fitted with a standard make of cylinder is furnished. It is operated by key outside and knob inside.

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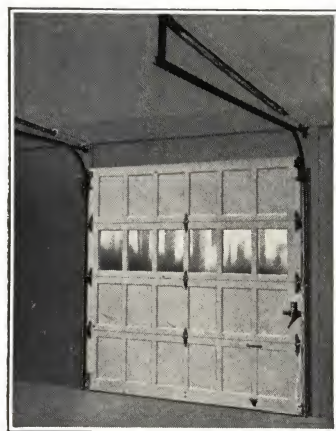
De Luxe Model

Quality Sections—Stiles and rails are of finest quality kiln-dried lumber fabricated to the highest mill-work standards. Panels are of three-ply fir veneer and are furnished with Ogee moulding. The sections are shiplapped and have end graduated rabbets to conform to Kinnear's special "Keystone" sealing device.

Keystone Sealing—RoL-TOP is made weathertight by a snug-fitting triple-contact between the door and the jamb. The door seals and binds itself tightly between seal strips in exactly the same manner that a Keystone seats in an arch.

STANDARD MODEL

Where original low price is more important than added years of unusual service, the standard Model RoL-TOP is offered. It operates in the same manner as the DeLuxe Model described on page 20. The door construction is also similar but counterbalance is accomplished by the old conventional arrangement of two stretch springs placed parallel to the tracks.



Standard Model

One spring is connected to each side of the door by means of pliable plow-steel cable running through ball-bearing sheaves.

The Standard Model is built in any size from 8 ft. x 7 ft. to 12 ft. x 10 ft. and also in widths up to 16 ft. when height does not exceed 8 ft. While it offers a good value it should be carefully compared with the advantages of the DeLuxe Model before a decision is made.

ANY SIZE

While RoL-TOP is built in the three standard sizes listed, it is built on special order in any practical size and of a great variety of woods and panel designs. In conjunction with a wide range of auxiliary equipment, RoL-TOP can be adapted to most any individual opening condition.

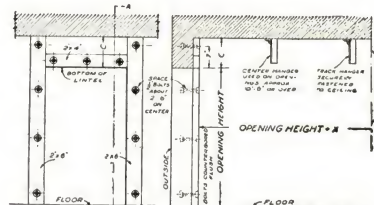
STANDARD SIZES

8 ft. x 7 ft.; 8 ft. x 7 ft. 6 in.; 8 ft. x 8 ft.

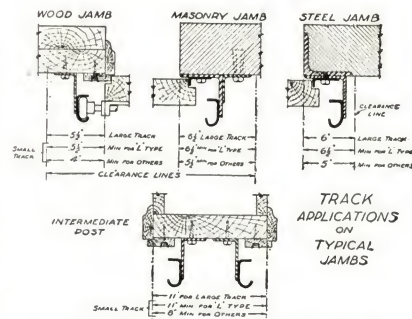
The standard for the three above sizes is one light section (without glass) to be located the third section from the bottom on the 8 ft. x 8 ft. and the 8 ft. x 7 ft. 6 in., and the third or fourth section from the bottom (specify) on the 8 ft. x 7 ft. Counterbalance is like that described for the Standard Model. Master keying of locks and other variations from standard can be supplied at small additional charge.

INSTALLATION

The installation of RoL-TOP is a simple, economical task . . . the average door—requiring only 3 to 4 hours to install. The door is complete with erection instructions and all other materials, except glass, horizontal track hangers and materials that may be required to properly prepare the opening.



DOOR TYPE	C	X
T-1 TORQUE SPRING STANDARD	12'	33'
TU-1 TORQUE LIMITED HEADROOM	8'	44'
L-1 HIGH LIFT	24" MIN.	VARIES
S-1 STRETCH SPRING	13'	26'
T-CHAIN-CHAIN HOIST	24" MIN.	20'



		HEIGHTS					
		UP TO 8'-0"	8'-3"	10'-3"	11'-3"	12'-3"	13'-3"
WIDTHS	A	UP TO 12'-0" WIDE	12'-0" HEADROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM
	B	12'-0" HEADROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM
C	12'-0" HEADROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM
D	12'-0" HEADROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM	12'-0" SIDE ROOM

SPECIFICATION DATA—RoL-TOP DOORS

DOOR SECTIONS

Construction—Sections are approximately 2 ft. high and panels approximately 12 in. wide except on special orders. Sections ship-lapped and have graduated rabbets to fit RoL-TOP special "Keystone" type weatherproof sealing device.

Thickness—Standard and special sizes not exceeding 8 ft. wide and 8 ft. high will be furnished with stiles and rails either 1 3/8 in. or 1 3/4 in. Sizes 15 ft. and 16 ft. wide by 7 ft. to 8 ft. in height are 1 3/8 in. thick, reinforced with Kinnear's special trussing members. Other special sizes exceeding 8 ft. by 8 ft. are 1 3/4 in. thick with doors over 12 ft. 2 in. wide reinforced with steel truss members.

Reinforcing—All doors over 12 ft. 2 in. in width are reinforced with Kinnear's special steel trussing bar which minimizes the natural tendencies of wood to warp and deflect, increasing door's life of service. Doors under 12 ft. 2 in. in width can be reinforced, if specified at extra cost.

Wood—Stiles and rails of doors of standard design of finest quality kiln-dried lumber with panels of 3/4 in. three-ply fir. Frame and panels of special woods obtainable from mill stocks can be furnished if specified.

Glass Section—Sections can be arranged for glass as specified. Weight of glass affects counterbalance; therefore, type of glass to be used should be specified. For uniform balance glass of double strength or lighter is preferred. Panels are framed with Ogee 1/8 in. in moulding.

Special Designs—Special woods (if obtainable) and special paneling effects can be furnished to meet individual requirements. When such is desired, send specifications to Kinnear and special recommendations will be furnished.

COUNTERBALANCE

As described in general description.

HARDWARE

Tracks—Moderate size doors equipped with 2 in. steel tracks. Large doors equipped with 3 in. steel tracks. All vertical tracks are mounted on a continuous angle iron, providing a rigid, solid, heavy duty member.

Rollers—Ball-bearing rollers, which travel in the tracks are built with a one-piece solid steel case, which operates around a hardened steel ball-bearing race and sleeve. Operating on a shaft made with a shoulder and independent of the hinge, it is free-floating and yet locks the door securely in the tracks. Roller of 2 in. diameter with 12 1/4 in. balls on small doors. For large size doors roller is of 3 in. diameter with 10 1/8 in. balls.

NOTE: Other hardware as described in previous description.

SHIPPING DATA

Crated for shipment in sections and with all necessary materials except glass and the materials necessary for properly preparing the opening for application of the door. Shipped under the 3d freight classification in L. C. L.

AUXILIARY EQUIPMENT

In addition to the Motor Operators described on page 23, Kinnear has especially designed numerous other auxiliary units for use with RoL-TOP Doors. Briefly, a few of them are:

Chain Hoist—For operation of large doors by means of endless chain and reduction gearing. Standard on doors exceeding 16' 2" in width or height or 160 sq. ft. in area.

Wicket Door—A small pass or entrance door built in a large size RoL-TOP. For convenient pedestrian access.

Automatic Opener—For raising a door automatically by a pull cord. Especially suited for fire stations.

Lubritorium Design—Special counterbalance and track arrangement for carrying door sufficiently high to permit use of hydraulic lifts.

Sliding Center Posts—For closing one large opening with two or more doors. When all doors are open the center post is pushed to the side of the opening.

Since the application of RoL-TOP Doors is made highly flexible through the use of these, as well as other auxiliary units, it is recommended that the door problem be presented to Kinnear for their detailed recommendation.

All Steel RoL-Top Doors

A NEW STANDARD IN DOOR DESIGN

COMPLETELY GALVANIZED—ADDING YEARS OF DURABILITY

GENERAL

The All-Steel RoL-TOP Door combines the lasting durability of a steel door with the convenience and facilities for light of the sectional upward-acting RoL-TOP Door. Through its refreshing modern clean cut appearance it is unusually suited to today's modern home design as well as a highly serviceable door for all commercial and industrial uses. In principle of operation, adaptation and installation it is similar to the Wood RoL-TOP which is described on pages 20 and 21. It is also built in any size in various metals and with any number of sash sections.

ADVANTAGES

The All-Steel RoL-TOP Door has a number of advantages in addition to those offered in the wood door.

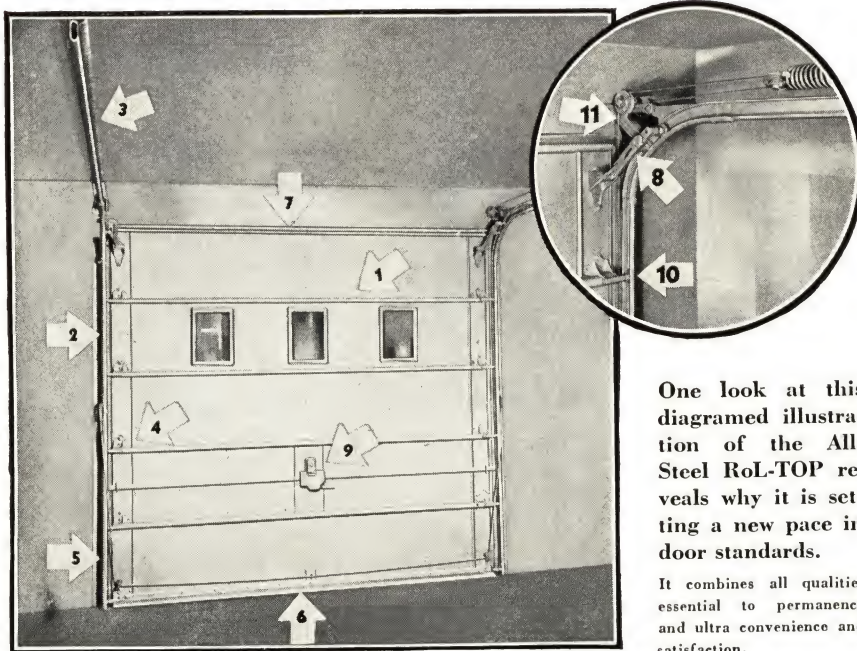
Of all metal it is practically indestructible. Resists all kinds of weather. Fireproof, verminproof. A real barrier against intrusion. Can't sag, bind, warp, come apart or split. With simply designed, but heavy duty, operating mechanism it has exceptional durability and will require the absolute minimum of service. The All-Steel RoL-TOP Door is made truly weathertight by Kinnear's ingenious "Keystone" sealing.

CONSTRUCTION

Sections (1) approximately 18 in. deep are rolled from heavy gauge steel and galvanized by the hot process. Ball bearing rollers of the special Kinnear design (10) are bolted with through bolts to the ends of the sections. An additional reinforcing member is welded at these points. The lock (9) is of the cylinder type, working in conjunction with locking bars that engage in the vertical tracks. It is made weathertight all around by a weatherstrip at the top (7) and bottom (6) of the Door and Kinnear's (5) Keystone Sealing Device for jamb sealing. This latter is accomplished by the ends of the door sections being tapered slightly so as to fit snug between the adjustable metal strip that is placed in a sloped position on each jamb. Tracks (2) are of the heavy type mounted on the jamb with continuous angles. Hardware (4) on the exterior side is galvanized. Counterbalance is of either the conventional stretch spring (3) type or the single shaft torsion spring type, depending upon individual preference and size of door. For other details see Wood RoL-TOP.

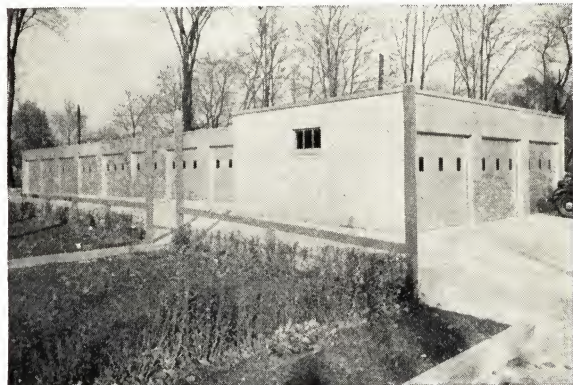
The All-Steel RoL-TOP Door is built in the lubricorium type with special hi-lift tracks.

The installation below illustrates the suitability of the design and construction of this door for modern service station requirements.



One look at this diagramed illustration of the All-Steel RoL-TOP reveals why it is setting a new pace in door standards.

It combines all qualities essential to permanence and ultra convenience and satisfaction.



The clean-cut, tailored appearance of the All-Steel RoL-TOP not only harmonizes with all styles of architecture, but also lends itself particularly well to the ultra modern designs.

Equally attractive without glass lights.



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STANDARD SIZES

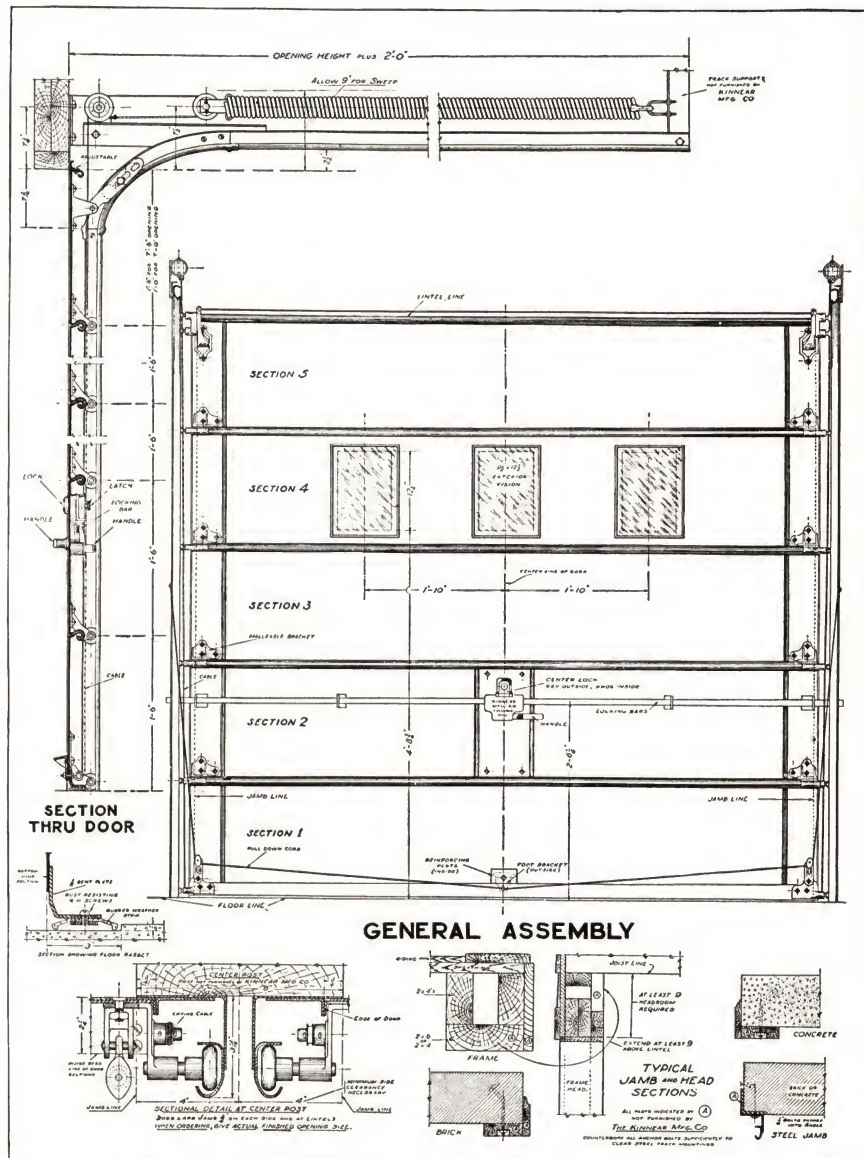
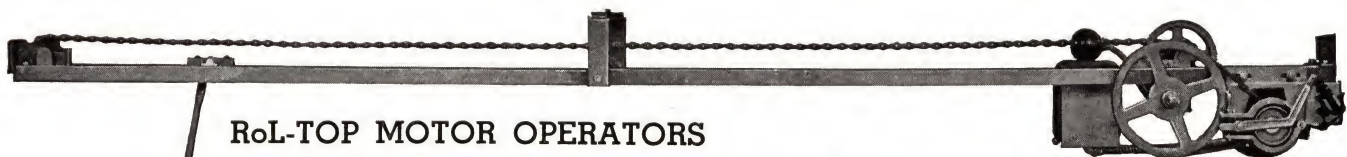
Though built on special order in any size, the All-Steel RoL-TOP is offered in several of the more commonly required sizes, viz:

8 ft. x 7 ft. 14 ft. x 7 ft.
8 ft. x 7 ft. 6 in. 14 ft. x 7 ft. 6 in.

These standard sizes can be had with either solid panels or with the third section from the bottom with the standard 3-light sash as illustrated. Counterbalance on the standard sizes of the stretch spring type.

For clearances, opening preparation and track mounting of standard doors, see schedule at right. Doors are shipped complete with full erection instructions, with exception of glass and materials necessary for preparing the opening.

Besides being built in any size, of various metals, the All-Steel RoL-TOP is suited for hand, manual by hand chain and reduction gearing, or electric motor operation. It is also built in hi-lift construction for lubricatorium use and arranged for use with such auxiliary equipment as sliding center mullions, automatic opener, etc. As clearances and details depend on all these varying factors, write Kinnear for special bulletin and recommendations.

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RoL-TOP MOTOR OPERATORS

RoL-TOP Motor Operators are designed especially for overhead type doors. Model MS, illustrated, suited for any size of door and equipped with proper size motor. Equipped with a magnetic switch, it provides for the door being completely opened or closed by a momentary contact of the control switch. It can be wired with a varied combination of conveniently located operating stations. For those desiring a less expensive unit,

Model SS (like MS, but without magnetic switch, electric brake and with friction clutch) can be furnished for stock doors up to 150 sq. ft. in area but not exceeding 12 ft. in height. With the Model SS, it is necessary to make constant contact of the control switch—hold the button depressed until opening or closing of the door is completed. Motors on both models are of standard make and range from 1/4 h.p. up, depending on size of door to be operated. Requires a head clearance of only 6 inches more than required for manually operated RoL-TOP doors.

Write for special pamphlet giving more complete details. Where conditions do not permit use of the RoL-TOP operator, one of Kinnear's other type power units may be applicable, in which case recommendations will be made.



The Standard RoL-TOP Operator

The traveler on the continuous chain gives a direct center pull on the door, necessitating only a small motor. A convenient, neat and economical arrangement for the majority of needs.



KINNEAR BIFOLDING DOOR



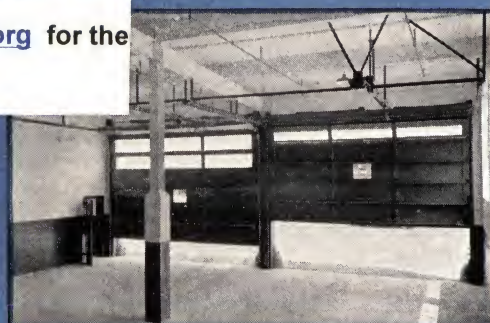
KINNEAR WOOD ROL-TOP DOOR

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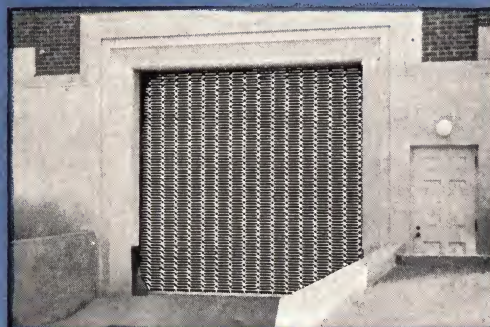
The Kinnear Organization is International. With an Office or Agent located in all principal cities, there is always a trained Kinnear Engineer Representative close at hand. Call for his specialized door services. There's no obligation, and if he is unable to answer your questions he will gladly come to "Door Headquarters" and get the information you need. No problem is too difficult for Kinnear's experienced door engineers and they will design and build any kind of Upward-Acting Door for any kind of an opening . . . offering the efficient solution to your individual door problem.

The **KINNEAR**
Manufacturing Company

820-870 FIELDS AVENUE, COLUMBUS, OHIO



KINNEAR MOTOR OPERATED DOOR



KINNEAR METAL ROLLING GRILLE



KINNEAR ALL-STEEL ROL-TOP DOOR